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GAILLARD'S

MEDICAL JOURNAL.

EDITOR:

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VOLUME XLII.

JANUARY TO JUNE,

1886.

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OF PHILADELPHIA.
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NEW YORK:
M. E. GAILLARD.
MDCCCLXXXVI.

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ARTICLE I.

THE THERAPEUTICS OF LATERAL CURVATURE OF THE SPINE.* By Lewis A. Sayre, M. D., Professor of Orthopædic Surgery and Clinical Surgery in Bellevue Hospital Medical College, New York.

The treatment of rotary lateral curvature must be governed by the *cause* which has produced the deformity—and by the *condition* of the patient when first brought under treatment. If the distortion is dependent upon obliquity of the pelvis, caused by inequality in the length of the lower extremities, as a matter of course the shortened limb must be artificially increased sufficiently to restore the equalization of the length of the two before any other proper treatment can be effectual.

---

*Read at a meeting of the New York Orthopædic Society held October 29, 1885.

If caused by *muscular debility*—want of tone in the general system to keep the body erect—we must, by *proper* training and *gymnastic* exercises, with massage, nutritious diet, and tonics restore lost vitality and increase muscular power.

If from careless and vicious *habits* in sitting, walking, and standing, these must be carefully studied and strictly corrected.

If from pleurisy with adhesions of one side, or pneumonia with partial consolidation of one lung, thus preventing an equal development of the two sides of the thorax, this condition may be very materially relieved by *forcible inspirations* while the body is strongly bent to the opposite side, and the arm and hand of the collapsed side is extended to its utmost limit over the head.

Another valuable exercise for patients with this distortion is that of Mr. Bernard Roth, of London, viz., making the patient in a *very loose* dress lie *prone* on the floor with arms extended at right angles with the body and the palms of the hands resting on the carpet, with the face turned towards the side of the *convexity* of the thorax, and the cheek on the side of the concavity resting on the floor. The patient is now in position to commence the first exercise, which is to turn the hands over, bringing the little fingers on the floor and the thumbs upwards.

The arms, still at right angles with the body, are then voluntarily raised as far as possible from the floor, while the head remains in contact with it. While in this position some one must press upon the feet while the patient raises the head and trunk, simply by the contraction of the muscles in the back, without putting the hands to the floor, and while in this position takes a deep and *forced inspiration*, and then drops back into the first position and rests at ease for a few seconds ; after which the same process is to be repeated three times. This should be done every night and morning, increasing the number of movements as the patient's strength increases; care being taken never to carry the exercises to the point of exhaustion.

After a few minutes of rest, the patient should then place the hand on the side of the *convexity* behind the back, and seize the buttock of the opposite side with the open palm, then place the arm on the *concave* side behind the head, seizing the opposite ear with the thumb and finger; then while the pelvis is still in its position the *upper* part of the trunk is twisted as far as possible around the convex side, and the patient in this position again compelled to elevate the trunk by the contraction of the spinal muscles, and at the same time to take a deep and forcible inspiration, and then return to the position of rest for a few seconds.

This movement, like the one first described, must be repeated three times at first, and gradually increased as the patient's strength improves.

Partial self-suspension will also be found a most valuable means of correcting the deformity in cases of lateral curvature, if the operation is properly performed.

This is effected by the patient having a leather collar passing under the chin and occiput, the straps passing from this up on either side of the head to an iron crossbar, secured by means of a rope and pulley to a hook or beam in the ceiling. The patient then raises the arms over the head to their fullest extent, and, seizing the rope in the hands, commences to climb up hand over hand until he gradually raises his heels from the floor, unless he should feel uncomfortable before he has reached thus far. The toes, however, should never leave the ground.

The hand on the side to which the concavity of the spine faces should always be the one uppermost when the patient has reached the height where the heels are raised from the floor. While holding himself in this position, the patient takes *three* full inspirations, then slowly descends until he once more rests firmly upon the floor, allowing the arms to fall by the sides and resting there a few moments, when the same course is followed out; in all *three* times.

For the greater convenience of holding to the rope, three wooden balls can be strung upon it and secured at a certain point after the patient has found out how far up he can extend himself.

It is necessary in the performance of this partial self-suspension that the patient should always keep his arms extended perfectly straight, and simply make each hand go over the other, and *no more ;* so that the muscles from the trunk bear the strain, while all strain upon the neck, which might otherwise prove injurious, is avoided. The patient, after being properly trained to perform this exercise, can have the apparatus arranged in his own room and exercise night and morning, three times as before described, until after some weeks, when the number may be increased as the strength may admit.

The positive change produced in the existing deformity by these exercises is plainly to be seen in the case now before you, or in any case in which you may choose to make the test, and therefore requires no further elaboration to prove its value.

Very often this deformity is produced in girls by horse-back riding, the bridle hand twisting the body around in the saddle. In such case they can have the pommel of the saddle reversed, and ride upon the opposite side.

In these cases of lateral curvature a very useful exercise is for the patient to sit upon a chair or stool, and then turn and twist the trunk in the opposite direction from that in which the deformity exists. Another exercise is that of sitting upon a stool with the arm upon the concave side raised in front on a level with the thorax, while the arm upon the convex side of the deformity is placed behind the back. Then seizing a rubber strap in either hand, the ends of which are secured to staples in the walls or door, the patient endeavors by muscular action to unwind as it were the rotation of the spine which exists as a deformity. Another is suspension from two horizontal bars, one being from two to four inches above the other; the hand upon the concave side of the curvature of the spine is to be the one to grasp the uppermost bar. Exercise upon these bars can be indulged in as often during the day as the patient may desire. Rings attached to ropes of unequal length also effect the same object.

Yet another exercise is to stand upon a block or box upon one foot, and to swing the leg upon the concave side, while reaching upward with the arm of the same side, as far as possible, while the hand grasps a weight of from two to four pounds, and while in this position to take three full inspirations. This also can be repeated several times daily. Again: making the patient stand erect, and bringing the scapulæ together by contraction of the rhomboidei muscles, the arms being placed at the sides of the body, the palms of the hands facing directly forward, and the head held back is an excellent posture. A light book should then be placed on the head, and the patient be directed to march for from five to ten minutes, keeping the book balanced upon the head. By this means the muscles of the spine are trained to keep the body in an erect position when standing, for it is a well-known fact that those people who are in the habit of carrying baskets or weights upon the head never suffer from lateral curvature of the spine. In fact, if children, either boys or girls, with commencing lateral curvature had the advantages of the military drill of West Point the majority would be cured without mechanical treatment of any kind.

Massage and manipulation with the application of electricity to the weakened muscles of the spine, are also valuable adjuncts to restore their tone and vigor. The horizontal posture in these cases of lateral curvature should also be assumed upon the slightest approach to fatigue, even if it is carried to the extent of resting several times during the day, the physical condition of the patent being, of course, taken into account as a guide in this respect, so that it may not be used as a shield for indolence. As a result, therefore, in these extreme cases a lounge or reclining chair should be at the disposal of the patient, even during the hours of study; the chair, also, in which they sit during the hours of study, should have a back which will support the spine, and a book-rest attached in front which can be used both for the purpose of reading and writing. Sometimes it is well to tilt the chair a little to the side of the concavity of the deformed spine, thus causing those muscles to act more than their opposing fellows, in order to retain the body in the erect position; the chair being secured in the uneven position by small blocks of wood under the leg of the opposite side.

Strict attention to the rules here laid down, including the use of a nutritious and generous diet, together with outdoor exercise daily, will suffice, in the majority of cases of rotary lateral curvature of the spine, to effect a complete and permanent cure in those cases where osseous deformity has not occurred, without the aid of mechanical means.

If, on the contrary, the deformity has been allowed to progress until the angles of the ribs have become abnormally curved, and the bodies of the vertebræ from undue pressure have lost their true anatomical conformation, it is very questionable whether these cases can by any kind of treatment be *perfectly* restored.

As before stated, the gymnastic and hygienic treatment described, if properly followed out, will cure the majority of cases that may come under your treatment, while the others will be very greatly improved by the same course. If, however, there is, as I have mentioned, a change in the bony structure affected by the deformity or producing it, then it is more than probable that some mechanical means will be requisite during the life-time of the patient, in order to retain it in the improved position which the act of partial self-suspension which I have before described, will always give to these cases.

This brings us to the point of mechanical treatment. For this purpose innumerable devices have been contrived by surgeons in every country for ages past; none have, however, given perfect and complete satisfaction. Many of them have been most cruel instruments of torture; but a woman's vanity to restore her figure to the proper form has in many instances induced patients to bear the torture with a heroic fortitude perfectly surprising, even when excoriations have been produced by the pressure of these instruments, causing them to discontinue their use for weeks before the skin would be in a condition to again bear such an application. Time will not allow of a description of these instruments, but I have here a number for your inspection, and you can examine them at your leisure at the close of this paper.

Having carefully tested these various devices which have been constructed to relieve this deformity, I have finally abandoned them all because of their inefficiency as well as cruelty, and have for some years past confined myself entirely to the use of the plaster-of-Paris jacket made into a corset, which can be applied by any physician, in any part of the world, without recourse to the instrument maker, and which will retain the body in the improved position which self-suspension gives it better than any other device with which I am acquainted.

This jacket when made into a corset, as I shall presently describe, is to be removed at night on retiring; the patient then following out those exercises I have laid down; the same exercises being pursued in the morning on rising and previous to the application of the corset. The corset being always applied to the patient while she is in the position of partial suspension, otherwise it cannot fit, as it was made and fitted to the body in the improved position which the partial suspension gives it.

New jackets can be applied from time to time as improvement in the form of the patient takes place. The period may vary weeks and months in different cases, the improvement in some taking place more slowly than in others. Many cases of adults who have become seriously deformed are never capable of being improved beyond a certain point. Such cases require to wear the corset during the remainder of their lives, and this gives them great comfort and support; many patients that I have now under treatment being enabled to pursue their daily vocation who, for years previous, had been deprived of earning their own living, although they had resorted to every known device that had been invented. In following out this same idea of treatment, surgeons have used various substances for the making of these jackets to take the place of the plaster-of-Paris, among which I might mention silicate of soda, porous felt, leather, perforated or otherwise, various preparations of paper, or paper with shellac combined, etc., etc.

The objections to these substitutes are that they are all impervious to the air, and therefore prevent the absorption of the insensible perspiration of the body, causing a filthy accumulation of moisture and dead cuticle on the inner surface of the jacket. They are also much more difficult to apply, with the exception of the silicate of soda, which is more difficult to cut off, and cannot be so accurately adjusted as the plaster-of-Paris.

The plaster-of-Paris jacket, on the contrary, is permeable to the air, as you see in this small cylinder which I show you, made out of an ordinary plaster bandage to illustrate my remarks. It is, as you see, closed at both ends like a drum, but at one end I have made a small hole to admit a segar or stem of a pipe. It is then filled with smoke. Having done this, I remove the segar and stop up the aperture ; when you see the smoke passing on all sides through the substance of the drum itself, thus proving its porosity.

The plaster jacket, when properly applied, fits with such perfect accuracy that it never produces any galling or chafing of the skin, while at the same time the thorax being fully expanded by the position of the patient during the application of the jacket, no compression or restriction of the respiratory apparatus takes place, as it does in all other appliances, except the silicate of soda applied in the same manner. Although this charge has been made against it it has been proved to be utterly false by the test of the spirometer, and further than this it has been found that the patient can breathe more freely with the jacket on than without. This is also shown in the face, which soon assumes a more natural glow of health, owing to greater oxygenation of the blood, arising from more free and complete respiration.

In the application of the plaster-of-Paris jacket, some skill is of course required, and, above all, a close attention to details ; a slight experience, however, will enable any surgeon interested in his work to apply the jacket accurately and successfully, if the rules I here give are faithfully followed out.

When you have determined to apply the plaster jacket, direct your patient to secure a skin-fitting knitted shirt made especially for this purpose. I secure mine from The Bickford Knitting Co., 795 Broadway, of this city, ordering it of twice the length of the body, to allow of reversing, as I shall presently explain. Having secured this, strip your patient of all clothing, down to a line with the great trochanters, and apply your knitted shirt. If it be a female, place inside of the shirt, next to the skin, pads over the mammæ to form the bust of the corset, and prevent any pressure upon the glands ; over the abdomen place a folded towel to allow of distension of the stomach after eating. If, however, the patient eat a hearty meal before the application of the jacket, the towel is scarcely needed. If your patient be a male, take two towels: fold them lengthwise, and let their width correspond with the breadth of the patient's chest. Over the chest you will need to fold them of extra thickness, to give more freedom and allow of free respiration. The shirt being now fastened over the shoulders, your patient is prepared for the application of the jacket.

The necessaries of the surgeon are as follows: First, a block and tackle, with a crossbar from which the patient suspends himself, by means of a leathern collar passing under the chin and occiput, from which two straps on either side of the head pass up and are attached to the crossbar, which latter is attached to one of the pulleys, the remaining pulley being secured to a screen fastened into a beam in the ceiling, or some convenient support. The plaster-of-Paris bandages must have been previously prepared as follows: From crossband crinoline in three-yard lengths, tear strips of from two to four inches wide, according to the size of your patient, being careful to tear off the selvage edge of the fabric. Then take the best *dental plaster* you can secure (I purchase mine from the White Dental Manufacturing Co., N. E. cor. 32d Street and Broadway, price $1.25 per can) and rub it into the meshes of the crinoline upon a long flat table, rolling it as you proceed to rub it in, as you would roll an ordinary roller bandage, but with this great difference, namely: that you roll it so loosely (but not too loose) that the water can easily permeate the bandage, and thoroughly saturate the plaster in less than half a minute. Do not put too much plaster into your bandage, but just see that it is well rubbed into the mesh of the crinoline, and then rub all surplus plaster off while rolling it up.

I am frequently asked how many bandages I use to make a jacket. This depends upon the size of the patient and the width of your bandages; but an ordinary sized female will perhaps require from eight to eleven bandages, though, if they are well rubbed in while the jacket is being applied, may not require more than seven.

I would here especially call your attention to the quality of the crinoline used. I do not refer to the price, as that at nine cents a yard is sufficiently strong for all purposes. But I refer to the substances by which the manufacturer stiffens the goods. I find this has been a frequent source of failure in the application of the plaster jacket.

The first great point is, *do not have your crinoline stiffened with glue or size* if you can avoid it; starch is very well, and will not interfere with your work. But if it is stiffened with glue or size, you must first have it washed and then ironed. This is the reason I so often receive letters from physicians in all parts of the country, saying, "they cannot make the plaster set," although they have sent here to New York and secured the dental plaster I speak of.

Your bandage being ready, you now immerse them in a vessel of water of sufficient depth to more than cover the bandages when standing on end. Having provided yourself with an apron to protect your clothes, and if it be in a private house, covered the floor with a sheet to protect the carpet, you place your patient directly beneath the pulleys and fasten the chin collar around his neck, then pulling on the rope just sufficient to make it tense in order to straighten it, you direct the patient to extend his arms above his head and reach up on the cord as high as he can reach while standing flat upon his feet. Then slip up the three or four wooden balls which are on the cord, and tie a knot at that point at which the tips of his fingers touched, the balls affording a firm grasp upon the rope. You now direct him to grasp the balls firmly with one hand and climb up hand over hand, the little finger of the upper hand resting upon the hand below, until his heels are just raised from the floor, so that the weight of the trunk is evenly divided between the neck and the arms. You must be careful that the patient is not allowed to bend his arms at the elbows, otherwise the weight of the trunk is brought to bear upon the muscles of the neck, and you may seriously injure your patient, whereas no injury can occur if the arms are kept straight. Having raised himself to the required height you must see that the hand upon the concave side of the spine is the uppermost one upon the rope. An assistant then sitting down in front of the patient places a leg on either side and grasps the legs of the patient firmly between his knees, thus leaving his hands at liberty to assist in applying the plaster jacket, while the patient is held from swaying to one side or the other. The surgeon, who is now standing behind the patient and who applies the plaster bandages, commences his work, and should expedite matters as much as possible. Having placed one of the bandages on end in the pail of water and seen that it is thoroughly saturated—which is shown by the cessation of the air bubbles—you drop in the second and take out the first, pressing out the surplus water; you then commence to wind it snugly around the *waist* of the patient, each turn of the bandage covering two-thirds of the one previously applied, carrying it in this manner down below the iliac crests to the great trochanters, then passing back (always putting a bandage into the pail before removing the previous one) up towards the thorax and over the mammæ, the assistant rubbing each turn of the bandage into the one previously applied, until a sufficient thickness has been secured to give the necessary support to the patient. In those places where the patient is liable to exert more pressure—as, for instance, on the concave side—you may strengthen it a little by a few extra turns of the bandage half way around. In a few moments the plaster is sufficiently set—if you have secured the right plaster and crinoline—to allow of the removal of the jacket, this being effected by a section made from the centre of the sterno-clavicular notch to the centre of the ramus of the pubes, using a sharp curved knife (such as is used for pruning trees I have found best answers the purpose), and dividing both shirt and plaster dressing, the jacket being removed from the patient while he is still self-suspended.

In cases of persons who are very corpulent, after the removal of the jacket I cut out a small strip in the front of the jacket *at the waist*, so that the lacings can be drawn even more snugly than the original bandage when the corset is complete.

Having applied and removed the jacket, the patient is at liberty to dress himself, and we once more turn our attention to the jacket. The strip being cut out of the centre of the jacket, as I have just mentioned, I then bring the cut edges together and bind a common roller bandage around it to prevent it from losing its shape while drying, widening the jacket above and below in order to make the edges meet, should they have overlapped when the centre was drawn together.

I then carefully pass my hand over the inside of the jacket to see if there are any ridges, which are sometimes caused by the patient allowing his hands to slip and the body settling down; this is sure to cause a ridge. These, however, can be removed while the jacket is still wet by pressing firmly along them with your thumb or fingers. The jacket is then put on one side until the next day. The patient is self-suspended as before, and the jacket sprung open and bound upon him with a common roller bandage, over a skin-fitting shirt. He is then removed from the suspension apparatus; and now comes that part which is to determine the comfort or torture of your patient. By this I mean the trimming out of the jacket under the arms and in front of the thighs.

In former times, and, I am sorry to say, with some surgeons the practice exists at the present time, the shoulders were strapped to the brace, this being supposed to rectify the curvature of the spine; hence it is we often find patients wearing straps passing over the shoulders, which have been advised by those who have been treating them. Now it is a well-known fact that the shoulders are only attached to the spine by muscles and can be moved up or down, no matter how crooked the spine may be; but at the same time, if these same bones and muscles are strapped down to a given point—as, for instance, the pelvis—it is impossible for the spinal column to develop straight, as it should, and will do if not restricted by those unnecessary shoulder straps.

This point is well illustrated in this specimen of the human spine now before me (and for which I am indebted to Dr. Judson), with a steel spring passing up through the vertebral column, while the spinous processes are secured by elastic bands on either side, holding the spinal column perfectly erect. If, however, I press upon the top of the spring, the spine immediately assumes the position of a rotary lateral curvature; and while held down in that position no amount of lateral pressure can make it straight until you remove the pressure from the top and allow the spine to become extended. Therefore, any instrument applied for the treatment of this deformity in which there are straps passing over the shoulders, thus preventing *extension* of the spine, is erroneous.

So that in the treatment of rotary lateral curvature of the spine, never apply any instrument which affects the freedom of the arms, and prevents the growth of the body upwards. For this reason it is that I do not use any support or appendage to the arms in lateral curvature of the spine. On the contrary, I cut out the jacket under the arms until the patient states that it is quite comfortable, and there is no chafing or irritation; in like manner it is trimmed out in front of the thighs to allow of flexion of the limbs. The jacket is simply as I have before stated, to retain the body in the improved position which the proper gymnastic exercises and self-suspension have secured.

Having now trimmed the jacket out under the arms and in front of the thighs, I endeavor to make it perfectly symmetrical in form over the bust, also going carefully around the edges, both top and bottom, with a pair of shears or a sharp knife, so that no inequalities or sharp corners remain which would show through the clothing, or cause the patient pain. It is then placed near the fire to dry slowly, and when perfectly hard is sent to my instrument-makers: Messrs. Reynders & Co., 303 4th Avenue. I directed you to order the knitted shirt twice the length of the body when you were about to apply the plaster jacket for the lateral curvature. This extra length is now reversed over the outside of the jacket and stitched along the top, covering in all the plaster and making it extremely neat. Lacings *with hooks* are now sewn down the front of the jacket, the edges of the jacket being previously bound with kid in front; and when complete your patient has as handsome a looking corset as can be sent out from any corset establishment in the city.

This, gentlemen, is a synopsis of the therapy of the rotary lateral curvature of the spine, and I am delighted to state, as coming from an American surgeon, that it is the treatment most generally adopted (since my visit in 1884) throughout the whole of Europe. I trust it will soon be acknowledged also in the whole of the United States.

In support of my previous remark I would quote the following words used by Mr. Wm. Adams, of London, at the International Congress held at Copenhagen in 1884: "The modifications in the plaster-of-Paris jacket which Professor Sayre has recently introduced and exhibited to the meeting seem to have perfected the jacket as a mechanical support. It is not only very much lighter, but being open in front with lacings, it can be removed at pleasure for gymnastic exercises, etc., and the patient is never to wear it at night in cases of *lateral curvature;* so that it can well be applied in this class of cases, to which I considered it was not previously applicable." (See Congrès International Periodique Des Sciences Médicales. 8me Session, Copenhagen, 1884, p. 226.)

ARTICLE II.

CASES OF SURGERY RESULTING FROM INFREQUENT CAUSES: I. SUBCORACOID DISLOCATION WITHOUT ANY KNOWN CAUSE; II. INTERNAL STRANGULATION, LAPAROTOMY, DEATH.*

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The following cases are reported not with the view of presenting anything new or exceptional in the treatment or the final issue, but to record in the first two cases how slight a cause, unsuspected by the patient, will produce a dislocation; in the third, a rare cause of intestinal strangulation, slough and death.

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* Read before the Third Congressional District Medical Society of Indiana, Oct. 27, 1885.

SUBCORACOID DISLOCATION.

Case I.—On the 21st of June, 1885, a young physician of prominence visited Louisville to consult me about a pain, of one month's standing, in the right shoulder with inability to elevate or rotate the arm at the humero-scapular articulation. An examination readily detected a subcoracoid dislocation of the head of the humerus. The doctor is a young man of good habits, and is actively engaged in the daily routine of country practice. He stated that he had not met with any recent or former accident; that he had retired one night as usual, sound in body, and that he did not remember that he had been disturbed, or even awakened, during the entire night. When he arose the next morning to dress, however, he experienced pain and inability to execute the natural movements of the right shoulder. He could see some deformity, but this was masked by round, well-developed muscles and a soft cushion of subcutaneous adipose tissue, and the subject was dismissed as of trivial importance. The only feasible cause that could be assigned was nocturnal muscular spasm from an incubus or frightful dream during the night, although the doctor had no recollection of such an occurrence.

The diagnosis was clear; the chief symptoms being the presence of the head of the humerus under and in front of the subcoracoid process, the absence of the head of the bone from the glenoid cavity, and the perfection of Professor Dugus' test for the differential diagnosis between a dislocation at the shoulder joint and any other injury, which is as follows: place the hand of the injured arm on the opposite shoulder or clavicle; if the humerus is dislocated, the elbow will project outward and forward from the thorax; if there is no dislocation, the arm, forearm, and elbow will lie flat on the thorax. The only exception to the latter position is where from falls, blows, or inflammation, the soft parts surrounding the shoulder are swollen, and the muscles are rigid and fixed. Under these circumstances the elbow would project and simulate a dislocation, but under chloroform the pain is in abeyance, the muscles relax, and the elbow will readily fall to the thorax.

For many years I directed the special attention of my medical classes to this important differential symptom, and call attention to it now from the fact that of the dozen surgical works in my library but one mentions this prominent symptom to differentiate and clear up the diagnosis in doubtful cases.

The doctor was chloroformed; rotary movements of the arm were made to break up any plastic adhesions, and the head of the humerus, not promptly yielding to manipulation, was easily replaced by extension made on the forearm and the heel in the axilla. Under slight motion of the arm, to determine if the natural movements were restored, the head of the bone slipped from the glenoid, but was again restored without difficulty. The head of the humerus was retained in place by the application of the fixed dressing, similar to that used in dressing fractures of the surgical neck of the humerus.

In this case I first placed the forearm at a right angle with the arm, then covered the shoulder and entire arm with absorbent cotton, placed a cap of pasteboard over the shoulder, with elongated strips which extended to the arm and forearm, all of which was secured with bandages saturated with solution of silicate of soda, commonly called soluble glass. Of the many substances used for fixed permanent dressings in fractures and dislocations, I am partial to silicate of soda. It is light, firm, and does not decompose, and when the dressing becomes loose from the subsidence of inflammation, or absorption of fat or atrophy of muscles, or the time comes for passive motion to restore the normal functions of the joints, the dressing can be cut with a penknife, opened for examination and passive motion, then replaced, tightened, and retained by a roller bandage, which may be saturated with the silicate to prevent displacement in children or refractory patients.

On the 28th of June the bandage was cut and passive motion was made; there was no disposition to a recurrence of the dislocation. Passive motion was again made, July 6; and he was advised to remove the dressing in one week. The doctor is a well-developed, muscular man, with no relaxation of the ligaments or tendency to loose joints.

The interest in the case lies in the occurrence of the dislocation under the circumstances without any known cause to the patient.

Case II.—In June, 1863, I was requested by a lady, aged thirty years, to prescribe for rheumatism of the right shoulder, for which she had been treated without relief. The history of this case dated back six months, at which time she had a severe hysterical spasm, while after recovery the arm was disabled.

At the time my attention was called to the case the arm was atrophied, partially paralyzed and useless, the pain was almost constant, the head of the humerus lay forward under the acromion process, forming a visible prominence without exposing the shoulder, in which position it was firmly fixed by adhesions, the acromion process projected prominently and the glenoid cavity was partially filled with inflammatory effusion. On the 23d of June, after chloroforming, I proceeded to break up the adhesions and reduce the dislocation by manipulation, but was unable to dislodge the head of the bone. She was directed to carry the arm in a sling and apply hot fomentations to the shoulder. On the 30th of June, the tenderness from the active manipulations having subsided, she was again anæsthetized, the dislocation was reduced with the aid of the pulleys, and the adhesions yielded gradually under careful tension. In this case there was no tendency, after reduction, to a recurrence of the dislocation, or limited anchylosis, as in the one just related of one month's standing.

The arm was bandaged to the side and the forearm carried in a sling for two weeks, when she was directed to dispense with the dressing and to exercise the arm and shoulder joint daily. In a few weeks the paralysis had vanished, the normal motions of the shoulder joint were restored, and the muscles were normal in size and strength.

At the expiration of six years she was healthy, had been able, during the interval, to attend to all domestic work, and had not, at any time, suffered pain or inconvenience in the joint or arm.

INTERNAL STRANGULATION—LAPAROTOMY—DEATH.

The rapid advances which have been made in abdominal surgery during the last quarter of this century have ranked laparotomy, not merely as a justifiable operation in extreme conditions or as a last resort, but as a justifiable one, even to the extent of an exploratory proceeding to make a correct diagnosis, and to determine whether the injured or diseased organ or abnormal growth can or should be removed. Experience has dispelled the fear of incising or manipulating the dreaded peritoneum, and under favorable conditions the operation, if early performed, is as safe and successful as any other capital operation. By successful I mean the prolongation of life and the restoration of the patient to health, where without it the result would be certain death, or at most a brief respite, attended with anxiety, pain, and suffering.

The subject of this record was a male, aged forty-two, married, occupation a painter, habits for years dissipated. I was called to see him in consultation June 3, 1885, by Dr. Hopson, of Jefferson County, Ky. History: one week prior to this time he was engaged in painting the front of a house. In good health, he was suddenly attacked with abdominal pain, cramps, and vomiting. He was carried to his boarding house, physicians were summoned, and remedies administered for what, as the patient stated, was supposed to be painters' colic. The vomiting continued, and the constipation would not yield to active cathartics and enemas. The pain was relieved by opiates. The fifth day after the attack he determined to go to his family, and with the assistance of friends he reached the depot, when he rode five miles by rail, and managed to walk or crawl half a mile to his home in one and a half hours. Dr. Hopson, the family physician, was called in to see him the same afternoon, and stated to the family that the only hope of relief was the knife, though he very properly used palliative remedies. The patient and his friends refused a consultation until the day I was summoned. On the eighth day I saw him, and learned that from the time he reached home—three days previous—the constipation had been absolute, although the abdominal pain had subsided, and the only discomfort was from tympanitic distention. The vomiting continued, and for three days had been stercoraceous, accompanied with the usual constitutional symptoms—a rapid, wiry pulse, cold, clammy skin, anxious expression, pinched features, etc.

The patient did not feel any special pain on palpation and pressure, nor could he locate the severe pain experienced during the first five days at any particular point in the abdomen; there was no evidence of any tumor or enlarged or thickened intestine. The subsidence of the pain, the continuance of constipation, and the steady increased gravity of the constitutional symptoms all pointed to incipient sloughing on the day he reached home. His friends and himself, after his hopeless condition was explained, it being pointed out to them that death was certain in a few hours without surgical interference, and that there was a possible hope that the sloughing was not so grave as it appeared to be, earnestly requested the performance of the operation. The patient was given a whisky toddy and chloroformed, and an incision about three inches long was made in the median line below the umbilicus. The small intestines were found enlarged, thickened, and greatly distended with gas and feculent matter, and the surface was red and congested, indicating general acute inflammation in an advanced stage. There was no evidence of intussusception, stricture, volvulus or strangulation from a loop of the bowel being imprisoned in a hole through one of the mesenteries, or held by bands developed by antecedent inflammation. The colon had been so thoroughly evacuated by enemas that it did not interfere with the exploration. The protruding coils of small intestine were punctured with a hypodermic needle to give exit to gas and facilitate the manipulation; but little gas escaped, the contents of the syringe being mostly fluid. The enlarged and distended intestine was traced down to the right iliac fossa, where it apparently terminated in an enlargement which felt much like the distended cœcum displaced forward. This mass was formed by the imprisoned bowel, surrounded by a tight-fitting cap of shiny, pearly peritoneum. Traction on the ilium drew out about eighteen inches of intestine loosely matted together by plasma of recent formation, without adhesion to the interior of the sac. The walls of the bowel were acutely inflamed, and had two complete sloughs, one of which was the size of a twenty-five cent piece, and the other a little smaller; there were two large black-looking patches in the incipient stage of dissolution, and about two inches above the first slough the bowel was reduced to one-half its normal diameter by an annular constriction. The small bowel was unloaded of over a gallon of feculent liquid contents through the large upper perforation, the tight-fitting cap having prevented any extravasation from the gut before it was released. The base of the sac was attached over the right internal inguinal ring, and was evidently the ancient sac with its contents—the reducible hernia of eight years ago, which the patient had returned in mass. He had no distinct recollection of ever having worn a truss for any length of time, if at all. All he could say was, that he at one time had a rupture which he returned, and for eight years there had been no return, a reiteration in substance of what he stated in answer to questions propounded before the operation was performed. The hernial rings were all normal. The edges of the slough were trimmed with the scissors and closed with interrupted colored silk sutures; the cavity was then cleansed with warm, moist sponges, the external wound closed by deep and integumentary sutures, and all covered with a compress of warm, dry flannel and bandage.

The patient rallied from the chloroform. He did not apparently suffer from shock, and was much more comfortable; but death had already commenced its work and he expired before midnight.

This case is but one more added to the sad list which go to demonstrate the importance and necessity of an early operation, and the fatal result of hesitation and procrastination. Had this man been operated on as soon as practicable after the usual medication had failed to relieve the symptoms ot strangulation, in my judgment the chances for recovery would have been largely in his favor.

The question may be asked, Was this operation justifiable after a prognosis of certain death in a few hours, with or without surgical interference had been made? It is not my custom to operate on a dying patient for the mere *eclat* attending it, and I declined to operate if it was expected by so doing that a life would be saved. One assurance was given, that he would not die under the knife, that the cause could be removed, and that his last hours would be made more comfortable. He said, "I will take the risk—operate; perhaps my condition is not so bad as you think; give me the last and only chance." Considering all the circumstances, and against my conviction of any permanent resulting benefit, I believe it was an act of humanity to acquiesce and grant the request of a dying fellow-being by giving him the benefit of what to myself was a hopeless doubt.

ARTICLE III.

HEPATIC ABSCESS. By S. C. CARSON, M.D., Alabama.

Recognizing the fact that a hepatic abscess—owing to its seat in an important viscus, its rarity and its gravity—is compelled to be a subject of unusual interest to the profession, I have overcome an innate aversion to writing, in order to report a case which, when viewed in all of its unfavorable surroundings, such as the poverty of the patient, the distance from the medical attendant, the impracticability of obtaining consultation or assistance to any degree, the total absence of skilled nursing, and the extremely low state of the patient physically, is eminently remarkable as an evidence of the wonderful rallying powers of nature and the recuperative properties of the human organism. At the same time it tells the tale—often repeated but seldom appreciated—of the manifold difficulties and apparently insuperable obstacles which stare the country practitioner in the face, and which—unless he is possessed of the requisite patience, energy, and love of his profession, coupled with charity for his fellow man—will surely cut him off from success.

Elvira Williams, negress, laborer, age 25, fell under my notice January 28, 1882.

Symptoms.—Pain in right hypochondrium and under right shoulder blade, chilliness and fever, great thirst, projection of liver below the ribs and a broad region of dullness extending into the epigastrium, inclination to avoid lying on the left side, tongue furred, skin hot and dry, loss of appetite, temperature 103½; pulse, 120.

Diagnosis.—Acute hepatitis.

Treatment.—Calomel, quinine followed by mur. ammonia, and a large blister over liver.

January 31st.—Bowels had moved from calomel, showing bile in actions; some relief from immediate distress, occasionally vomiting blood; temperature, 102; pulse 120.

February 10th.—Marked increase in emaciation; anorexia and area of dullness, rigors; temperature 99; pulse 100.

Diagnosed hepatitic abscess, and ordered iron, quinine, and good nourishment. The anxious facies, rigors, etc., admonished me that suppuration was in progress and that I should act at once; but I spent several days in efforts to obtain consultation and assistance, and in writing around to neighboring towns for an aspirator.

The roads were so bad and the distance so great that I could not prevail upon any of my medical friends to meet me, and there was no aspirator convenient; so I repaired to the patient's cabin on the 15th, hoping that circumstances would still grant me a delay. There is no pleasant sensation attending the plunging of a knife into the vital part of a human being at any time, and much less so when it is the first experience—especially with no one near but a negro woman.

However, when I could not fail to realize that the patient would not possibly survive longer than three days at the farthest, if left alone, I no longer hesitated. After a close examination I imagined there was a sense of fluctuation, and for further exploration I inserted the needle of my hypodermic syringe between the 9th and 10th ribs on the right axillary line, and found pus. After administering a good quantity of whiskey, and telling the negro woman to stand ready with a wash-basin, I drove an ordinary bistoury to the full extent of the blade, and upon withdrawing it enlarged the incision to about an inch.

A moment of anxious suspense followed—then a slow flow of pus, gradually increasing until it fairly poured out. It was lumpy, green-colored, and quite offensive. By the time the patient began to show signs of sinking, the tin basin was level full—so near the brim that it was necessary to use care to prevent it from spilling. I measured the basin at once and found it held two quarts of water. Therefore an even half gallon of pus had discharged from the abscess at one sitting.

I introduced a carbolized tent into the wound, ordered stimulants and nourishment, and left her in a comfortable condition.

February 16th.—Looks better, expresses herself as being free from pain, has an improved appetite, slept soundly last night, takes nourishment and stimulants freely, wound not discharging well, bowels confined, temperature 99, pulse 95. Ordered bowels moved by castor oil; mur. tr. iron, quinine, whiskey, and beef tea.

February 19th.—Temperature 99; pulse 100; bowels had moved on the 17th; had rested well until the night of the 18th, when she had considerable fever, restlessness, oppression over the stomach, and vomiting; liver enlarged from a reaccumulation of pus. I did away with the tent and introduced a large size male catheter to the depth of six inches.

For awhile this served a good purpose, but all of a sudden the catheter was forced clear of the wound and the matter spurted into the pan, nearly filling it. There was an immediate subsidence of all unfavorable symptoms.

February 21st.—Is stronger, cheerful, enjoying her food; wound discharging constantly by catheter. Temperature 99; pulse 85.

February 25th.—Temperature 98, pulse a little quick, abscess still discharging, covers the bottom of the basin daily with healthy pus; bowels constipated, complains of headache, can't get enough to eat, is free from anxious facies, does not require much in the way of stimulants.

March 2d.—Temperature 99¼, pulse excited, a "hacking" cough with a tenacious expectoration, right lung in distress, catheter enters only 2½ inches, wound discharging slightly.

March 10th.—Tube still "in situ," and a small quantity of a thin, watery matter dripping from it; patient gaining strength rapidly, and wants permission to take out-door exercise.

March 18th.—Temperature 99; pulse 85. Nurse reports a slight chill on the 12th and another on the 13th, followed by fever that yielded readily to quinine, but was accompanied by an increase in the amount and thickness of the discharge; considerable cough.

March 28th.—Temperature 98°; pulse 90°. No discharge except at night; had a chill during the week. Expectorates a tenacious sputum; think there is a slight discharge through the lung.

April 9th.—All appearances indicate a full recovery, except that the external orifice has not entirely healed.

Nov. 15th.—Saw the subject of this report in the field with a heavy sack of cotton on the shoulder—stout and in robust health.

It is needless to say that the above case was a surprise. What practitioner, as he allows his mind to precede him to a case, and grope around among the uncertain emergencies which are to arise, would fix upon an abscess of the liver? Did the thought ever cross the mind of a medical student that he must fit and prepare himself in the near future to treat such an abscess? Although I had the happy fortune of listening to the attractive lectures of the able and eloquent founder of this journal, I do not now remember one word he ever uttered on this subject. It probably passed from my mind before I left the lecture-room. There is, however, a very vivid picture in my mind, made during a certain clinical lecture delivered in the Louisville City Hospital, during the winter of 1873 and 1874, by Professor J. A. Octerlony, where the patient, a negro, walked into the room, took his seat in a chair, and gazed very complacently at the students whilst the Professor inserted the needle of an aspirator into the liver, and about a pint of pus ran down into the receptacle. I must confess, though, that I was more impressed with the aspirator and its wonderful adaptability to the various requirements of surgery than with the subject matter of the lecture. An interesting report of this case and two others will be found in the Richmond and Louisville *Medical Journal* for May, 1879.

I acknowledge, then, that I was poorly prepared to cope with such a formidable disease, and probably I should be allowed, without the charge of vanity, to claim some credit for an early diagnosis, and conducting the case to a successful issue, where the information contained in text books is so meagre and of so little assistance. In fact, were it not for the medical journals that come to our aid, weekly and monthly, it would be impossible to keep abreast with the progress of the age. He who depends simply upon each new work or edition in medicine will be a decade behind.

The effects upon the system of *functional* derangements of the liver, although they mask themselves under every variety and form, are so familiar as to be recognized without difficulty; but the *organic* diseases, though comparatively few, owing to the anatomy of the organ, its size, its deep-seated position, and its concavity, resting as it were upon other important organs, are especially difficult of diagnosis and differentiation. Although this particular viscus may attract special attention and have a careful examination, there is generally room for doubt as to what form of disease exists. Especially is this the case in fleshy subjects. If I may be allowed to illustrate this point, I will relate the history of a case that fell under my care in 1881. Although it is a considerable digression, I hope it may be of sufficient importance to render it interesting.

In May, 1881, I was called hurriedly to a gentleman of the neighborhood; thirty-five years of age, weighing nearly 200 pounds, a good liver, of intemperate habits and a neuralgic diathesis. Found him quiet but apparently prostrated by some severe ordeal. Said he had only just been relieved of the most excruciating agony. Attack came on suddenly without any known cause. Acute pains in the epigastric region, radiating from there to the spine and toward the right shoulder blade, had disappeared as suddenly as they came, and left him feeling a little sore and quite feeble. I was undecided as to the cause of the attack, but administered an opiate and took my departure. About two weeks afterwards I was absent from the county for a couple of days, and upon my return he remarked that he had passed through another attack similar to the first, only much severer and more protracted, and that he had felt as if he would die before he found relief. On the 24th, however, I reached him in time to witness the attack. The shiverings, the nausea, the drawing-double of the body, and the situation of the pain, combined to fix in my mind the diagnosis of biliary colic.

For several days he suffered more or less. Sometimes there were paroxysms and exacerbations of pain; then, again, it would tone down into a dull, aching sensation. Search for stone, in a careless, perfunctory manner, was made without success. About the fourth or fifth day jaundice appeared. But instead of being temporary, as I fondly hoped, it progressed from day to day, until his entire body was saffron. His perspiration would color the bed-linen, and his urine was loaded with bile, while his fæces were ash-colored and entirely devoid of bile. His appetite declined; his digestion, of course, progressively grew from bad to worse, and his strength and flesh diminished each day. Although the liver was frequently percussed, and, as well as possible under the circumstances palpated, the results therefrom were purely negative. After attending him for something like two weeks and trying all the remedies within my knowledge to re-establish the flow of bile, and, fearing the enervating results of the heated term which was just upon us, I gave the family my conclusions and my advice as follows: That a stone in passing from the gall-bladder had become inpacted in the cystic duct; that the occlusion, in my opinion, was complete, and, unless relief came spontaneously, death would be the result; that he should be removed at once to the mountains, where good air and water would give him every chance, and that he should be supported by the best of tonics and most nutritive food, and his digestion assisted by preparations of maltine, etc.

As he passed through a neighboring city, he was forced to take his bed where he hovered between life and death for a week. During this time two experienced practitioners attended him. One diagnosed inpacted stone; the other, cirrhosis, or gin-drinker's liver. Finally he rallied enough to continue his journey. He remained at a watering place in the mountains of North Alabama until November 1, under the care of one physician, and then another, gradually becoming more intensely yellow, or, rather, mahogany-colored, feeble, and emaciated, until his usual weight of two hundred pounds had dwindled to one hundred and ten; his appearance so altered that his most intimate friends failed to recognize him; and his nervous system so shattered that any little thing would fret and irritate him until he was frenzied. A harassing itching over the whole body, for which he fruitlessly sought relief, augumented his afflictions.

From the best information that I can gather, there was not a day, from the 1st of June until some time in October, that a semblance of bile appeared in his evacuations. At that time, without any special treatment or known cause therefor, the urine cleared up, the movements regained their natural color and consistency, and, after some weeks, his skin was again fair, and he began to recover, to a great extent, his usual amount of adipose tissue.

For a year or two, however, he was nervous, irritable, querulous, gloomy, suspicious, and dissipated. He complained frequently of a severe neuralgic pain at the base of the brain. Similar complaint had been made before his first attack of biliary colic.

Finally, while at a fair, some of his family, becoming for the moment imperilled through the gross carelessness of a driver, either from the emotion of anger or apprehension, he fell in an apoplectic fit, was carried to the house of a relative in a comatose condition, with stertorous breathing and other symptoms of effusion; but, after weeks of careful medical attention and nursing, he once more made his appearance in the world as a hemiplegic for about nine months before death came upon the scene. I have introduced this case here not alone to show the difficulty of properly differentiating liver troubles, but because I regard it, when taken in connection with Dr. McF. Gaston's brilliant operation lately published in this journal, as not only of intense interest, but most remarkably instructive.

I am convinced that this case was an illustration of the feasibility of Gaston's operation; that an autopsy would have revealed the fact that nature had as a conservative measure united the gall-bladder with the duodenum, and by ulceration had made a fistulous opening, just as Gaston would make artificially. In my brief medical career, this is the third time that it has been my misfortune to meet with affections of the gall-bladder where, for month after month, the patient's mahogany skin has appeared among his fellow-men, seemingly an opprobrium to our art, and as if inviting our interference. I read of Sims's operation in France with genuine pleasure, although it was in some particulars a failure, thinking it would serve as an entering wedge to a much-needed reform in the treatment of these obdurate cases.

Notwithstanding the obstacles to a completely satisfactory conclusion where affections of the liver are concerned, there can be no reason for failing to recognize an increase or a diminution—a hypertrophy or an atrophy—of that organ, if a perfect knowledge of its normal dimensions are fixed in the mind.

According to Murchison the true *upper* margin of the liver in the right *mammary* line is in the fifth intercostal space; in the *median* line in front it corresponds with the base of the ensiform cartilage; in the right *axillary* line to the seventh intercostal space; in the right *dorsal* line to the ninth intercostal space. The *lower* margin in the right mammary line corresponds with the margin of the costal arch; in the right axillary to the tenth intercostal space; and in the right dorsal to the tenth rib. In the epigastrium the lower margin of the right and left lobe usually descends to nearly half way between the ensiform cartilage and the umbilicus.

It is well enough to bear in mind that the liver alters its position to a small degree according to the position of the body. It is lower during the erect position and a full inspiration than during recumbency and expiration. It is to be noticed, also, that during infancy the liver is much larger proportionately than in adults. Other causes may bring on a condition simulating an enlargement—such, for instance, as an accumulation of fluid in the endocardium sufficient to press the liver downward; also a mechanical pressure from tight-lacing may change its normal relations.

In searching for the *causes* of an abscess in this region there is very little to guide us. That traumatism, pyæmia, and dysentery are sufficient forces from which to evolve this grave disorder is evident, though I believe they are seldom factors in its causation. Dr. Wm. A. Hammond, whom I regard as the leading authority in the United States on this subject—certainly the most accurate ciagnostician—was kind enough to write me and send a report of a number of dases upon which he had operated. He advanced a new theory of causation and ably sustained it by quotations from numerous authors, viz.: that abscess of the liver, among other causes, is produced by the influence of brain disease, especially hyperæmia. I wish time would allow me to introduce extracts from the many interesting cases that this brilliant operator reports. I cannot refrain from mentioning the one to me the most notable because I was familiar with many of the circumstances surrounding the case, and had formed such a high estimate, personally and otherwise, of the gentleman who was the subject of the report. If I do so in the words of Marion Sims—whom Alabama loves to honor—it will only add renewed interest to the case.

He says (*Virginia Medical Monthly*, January, 1880): "Now, Mr. President, I come to speak of a case in which we all feel, not only a scientific, but a deep personal interest. A gentleman well known to most of you personally, and to all of you by reputation—engaged in the arduous duties of a journalist, and professor in a medical college, having lived all his life in a malarious region, was suddenly stricken with fever in August, 1878.

"Early in October he came to New York, still complaining of his head, daily paroxysms of fever, complete insomnia, and great depression of spirits. I saw him, and called in consultation one of our most eminent physicians, who, after a thorough examination, declared his case to be one of profound malarial poisoning.

"A week passed and he was no better. I then called Dr. Wm. A. Hammond to see him. Judging from the brain symptoms alone, 'he thought it was a case of abscess of the liver.' On examination, his liver was found to be a little enlarged, and, by palpation, he was able to detect fluctuation, and to say positively that there was an abscess in the right lobe of the liver.

On the following day, he verified his diagnosis by aspiration, and drew off eight and a half ounces of pus.

" Many of you will be surprised, and all of you will feel special interest in the case when I tell you that the subject of this operation was Dr. E. S. Gaillard, lately of Louisville, Ky." In an editorial (GAILLARD'S MEDICAL JOURNAL, November, 1879), the accomplished editor gracefully acknowledges his indebtedness as follows:

"The medical facts in this interesting and obscure case will be more minutely given by the accomplished operator; but in the meanwhile the patient cannot refrain from recording the chief facts, and from publicly expressing his gratitude to those warm medical friends who, in the past fifteen months, have attended him so assiduously; and of showing how very much he owes to the extreme kindness of Dr. Sims and to the great skill of Dr. Hammond. The quantity of pus removed from the liver was over nine ounces." The history of this case would not be complete—in fact it is rendered more remarkable, as showing the rapidity and the completeness with which the tissue of the liver is reproduced—were I to fail in introducing here an extract from a letter bearing date June 6, 1885, and written by the worthy publisher of this journal, in which it is said: "In connection with the subject of your paper, perhaps it will be of interest to you to know that after Dr. Gaillard's death the *post mortem* showed not the slightest trace of abscess of the liver."

Anyone who will procure Vol. 1, No. 3, of Neurological Contributions, by Wm. A. Hammond, and carefully study the cases there recorded, will be forcibly impressed—if not convinced—with the author's theory of brain influence as a cause of hepatic abscess—notwithstanding he may have enjoyed the good fortune of reading an ably-written but rather severe criticism of the same by Walter Coles, in the Richmond and Louisville *Medical Journal* for February, 1879. All authorities agree that these abscesses are in some manner the result of living in a hot climate. Murchison even goes so far as to distinguish them as *tropical* abscesses. It is a prominent fact that in India, China, and Mexico they are more frequent than elsewhere. It was a prolonged residence in India that gave to Murchison the clinical experience and material upon which to base his most excellent lectures upon the liver; and a ten years' practice in Mexico that enabled Dr. J. C. Davis, of New York, to write that most admirable paper containing a report of 36 cases and published in the *N. Y. Medical Journal* for June, 1878.

When one notes the wide range of *symptoms* detailed by different writers, he is struck not only with their number but with their dissimilarity. It is a fact well established by the clinical history and *post mortem* examination of many cases that the liver can support an abscess for a protracted period without any symptoms of a serious lesion. While this is undoubtedly true, I am of the opinion that all abscesses which supervene immediately upon an attack of acute hepatitis are accompanied by symptoms of such severity that the attention is necessarily drawn to that particular region.

Flint says: "The febrile movement is not marked; jaundice is rare; and digestion may not be disturbed." Murchison says: "In the early stage of the disease there is chilliness followed by pyrexia and accompanied by pain and tenderness, or, oftener, by a feeling of weight, fullness, or uneasiness in the region of the liver, and occasionally by pain in the right shoulder; defective respiratory movements of the right ribs, dry cough, a uniformly augmented area of hepatic dullness and slight jaundice.

Frerich, who has written much on this subject, and whose recent death deprives the profession of one of its greatest lights, remarks that in severe cases the symptoms of morbid processes which precede and give rise to hepatitis are the most prominent; and sometimes morbid processes induced by hepatitis—such as peritonitis, pleurisy, or right pneumonia—give rise to such prominent symptoms that the real seat of the disease is overlooked. Watson, in his usual careful and accurate manner, says: "The symptoms are fever, with pain and a sense of tension in the right hypochondrium; inability to lie on the left side; difficulty of breathing, a dry cough, vomiting, hiccough." From him comes the statement that if the pain is sharp and pricking, the peritoneal covering of the gland is supposed to be affected; if the pain extends to the right shoulder, it is the convex surface of the right lobe involved, and the thoracic symptoms on the one hand, or the stomach symptoms on the other, may be expected to predominate according as the convex or the concave surface of the organ is chiefly the seat of the inflammation.

But after all, what is to be learned in regard to treatment? In the first stage, that is while the hepatitis is acute, I am satisfied that the chloride of ammonium, after a good purgation from calomel, has decidedly a beneficial effect, and as an adjuvant to relieve, to some considerable degree, the pain and soreness, and at the same time the mind of the patient, a blister can be applied often enough to produce vesication. But after this is done and there is no subsidence of symptoms after a reasonable lapse of time, the question of treatment becomes purely surgical, save so far as supportive treatment, tonics, and nourishment are concerned, and resolves itself into only two points of doubt, viz.: 1st. Early or late interference; and 2d, aspiration or the knife. If the former instrument is used, it is only necessary to previously antisepticise the needle, and, as Hammond recommends, to draw the skin up for an inch over the point to be punctured, so as to make a valvular opening.

As all surgical operations should be done under the greatest precautions, this, when the knife is used, owing to its gravity, should be guarded by all the safeguards known to the profession, and Listerism in the extreme should have the attention of the operator. Here I am advocating what is known to be best, not from having seen the necessity of it; though I can readily recognize the difference between a country and city practice. In the pure country air the most serious operations can, as a general thing, be done with impunity, yet I should prefer, even here, to throw around the patient every protection from danger. Every one should learn from another's experience.

If I read that the most eminent practitioners in New York City meet with sixty-five perineal lacerations in every one hundred cases of labor, am I to conclude that they are either careless or incompetent, because I, in the two-hundred and more labors which I have managed, have never seen the slightest rent? On the other hand, I am impressed with the effects that active exercise, habit and fashion have upon the female form and generative organs, and while I do not go so far as to take a lighted taper and make an ocular inspection of every perineum after labor, I *do* make it a point never to leave a case without the most thorough examination by touch. So, in operating upon an abscess of the liver with the knife, I would recommend it to be done under carbolic spray, or a solution of bi-chlor. mercury, although in this case of mine I was compelled by force of circumstances to operate in a negro cabin without any help or any disinfectants, and the case went on to recovery without the slightest untoward symptom.

I believe fully in *early* interference, and for this purpose, at this stage, I should prefer the aspirator. 1st. Because, should pus not yet be formed but just on the eve of forming, you will have obtained important information without injury to the patient, owing to the comparatively harmless puncture of this instrument, and can then appoint another sitting a few days later. In extenuation of this apparently heroic procedure, I take pleasure in citing several eminent writers, though my opinion was formed before consulting them. Dr. Murray, formerly Inspector-General of Hospitals in Bengal, Dr. Cameron (London Lancet, June 6th and 13th, 1863), Sir Ronald Martin (London Lancet, August 26th and 27th, 1864), and Dr. Hammond, Surgeon-General of U. S. A., maintain that "when we have just grounds for believing that abscess of the liver exists, we ought not to lose a day in evacuating it by puncture, and that we are both justified and safe in endeavoring to hit upon it with a *trocar* when deep-seated." Dr. Cameron goes so far as to recommend exploring the liver with a *trocar* in cases where the existence of an abscess is only suspected, and he has published cases where no pus was found and yet the patient's symptoms subsided, instead of being aggravated by the exploration.

2d. There being no union as yet between the liver and the abdominal parietes, all danger of the contents being evacuated into the peritoneum and thereby exciting an alarming inflammation is avoided by use of the needle.

3d. The pus, being of recent formation, is of such a consistency as to allow of a ready passage through the needle.

On the other hand, if the operation is done later, after evidences of suppuration are unmistakable and abdominal adhesions have occurred, the bistoury is decidedly the instrument. Here you want a large, free opening, such as will admit of cleansings, injections, and the introduction of drainage tubes for a month or six weeks. Then, too, at this time the pus has become thick so that an aspirator or even a *trocar* would become clogged.

For the latter reason I consider it a fortunate circumstance that I could not possibly procure an aspirator for my case after the first few days had passed.

My experience taught me, also, not to attempt to keep the edges of the wound from adhering by a tent or lint, but rather insert a tube for drainage at once. It is needless to mention that the greatest cleanliness should be exercised not only in regard to the tube but with all the vessels and instruments. Plenty of fresh air should be allowed, and the patient should be encouraged to out-door exercise as soon as the strength will permit.

While I have not advanced anything new or startling in this paper, I trust it may be of advantage to some member of the profession who is earnestly endeavoring to be "a hero in the strife."

ARTICLE IV.

AN OBSCURE CASE OF PULMONARY DISEASE.* By WM. MCCOLLOM, M.D., Brooklyn, N. Y.

Mr. C. R. S., aged 58 years, sanguine emotional temperament, vigorous health most of life, chest large and well formed, family and personal history good; he was a stock broker, not intemperate in habits of eating and drinking, but lived well.

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* Read at the Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn October 13, 1885.

During the winter of 1884 and 1885 he had cause for great sorrow and stress of mind, and he became depressed and more than usually emotional. In February, 1885, he commenced to suffer from paroxysms of dyspnœa, not severe or disabling. He always referred the difficulty to the throat, and said he was in perfect health with that exception. The attacks were induced by hurried exercise, as well as by mental emotion; they were not very frequent, and did not interfere with his daily duties, but were progressive. In July he went to the mountains, where he spent several weeks, taking active out-of-door exercise, riding eight and ten miles a day on horseback with little difficulty. On his return in the latter part of August, I carefully examined the heart and lungs without discovering the cause of these asthmatic seizures. The heart appeared to be normal, though active exercise, as well as emotion, disturbed its function. The percussion sounds were clear and moderately resonant over all portions of both lungs, no râles in any part of the chest, and no evidence, from physical signs, of disease.

Soon after this time Dr. Sherwell examined the larynx, and found no disease to account for the symptoms, neither could he diagnosticate pulmonary or cardiac disease, but was of the opinion that he had an aneurism of the thoracic aorta.

About this time he went to Saratoga for three weeks, and made use of the laxative waters without benefit. On his return in September, he again came under observation. The dyspnœa and inability to take active exercise had considerably increased, and now subcrepitant râles were present over posterior and inferior aspect of both lungs. On the 20th he was very carefully examined by Professor Austin Flint, who gave the opinion that the râles were due to pulmonary œdema, but could not trace the cause. The urine was examined for albumen and casts, and nothing abnormal discovered. From this time the disease was more rapidly progressive, the râles increasing and extending, the difficulty of breathing and heart palpitation growing more troublesome, preventing him from taking any exercise.

He took his bed on the 24th. At this time the temperature was not a degree above the normal. The pulse was 100; he was free from pain, as he had been from the first. He complained of nothing but dyspnœa, was taking food well, and was well nourished. On the 25th Dr. Jas. R. Leaming saw the case in consultation, and expressed the opinion that the difficulty was due to extensive adhesions, both old and new, over large portions of posterior aspect of both lungs, and that the subcrepitant râles should be accounted for in that way; he was confirmed in this opinion from subsequent examinations, the last the day before his death.

During the last week of his life the temperature ranged from 99° to 101°. The heart beat not lower than 100, and a considerable portion of the time 120. The respiration was largely abdominal, and the right lung did less work than the left. There was now lessened resonance over portions of the lungs, with loud, noisy râles over a large part of the posterior aspect of both lungs. The mind was not disturbed, and he suffered in no way but from difficulty of breathing and a sense of great exhaustion.

He died suddenly on the morning of the 6th of October, having been confined to the house twelve days.

The autopsy was made on the morning of the 8th by Drs. Benton and Browning, and Dr. Benton has kindly furnished me with the following notes of the same.

Sections of each lung will now be passed to the Fellows for inspection.

Autopsy made October 8, forty-eight hours after death.

Body removed from ice-pack and found well nourished, with large amount of fat in abdominal walls. The kidneys were first examined and found to be healthy. There was a slight suspicion in our minds that the liver was a trifle fatty. This was not marked enough to make it clear to our minds that it was a fact, so we did not notice it; otherwise the organ was normal.

The lungs and heart were removed together. The pericardium was opened and found to contain about two ounces of fluid, not more. The right ventricle was moderately dilated, otherwise the heart was normal in every respect.

The thoracic aorta was opened and found free from disease.

The lungs were put in water and found to float readily. They were relative in size and inflated alike. Dark grayish brown in color. Rough on surface from markedly dilated air cells. The pulmonary structure was hard, dense, and resisting to the touch, or in a condition which we thought analagous to cirrhosis; when incised it creaked under the knife, and little fluid escaped from the cut surfaces. A good deal of pigment was noticed. The hand being passed over both lungs, two slight adhesions were found at the apex of right lung on anterior surface; they were evidently very old. Aside from this, there was no evidence that the man had ever had pleuritis. No cavities were found; no tubercular deposit was noted; no evidence of acute pneumonia was visible. At the apex of right lung, under one of the two small adhesions, was found a sac about as large as a small marble, containing dense, cheesy matter of a yellow color, the product, doubtless, of an old inflammation. It had probably caused the patient no trouble during the latter years of life.

The most notable point discovered by the autopsy was the dense, hypertrophied condition of the connective tissue, which was diffused throughout the substance of both lungs alike. Both lungs had the same pathological appearance.

The brain was not examined.

This case presents some points of special interest. It is, I believe, rare to find so extensive and generally diffused cirrhotic disease of the pulmonary tissues of both lungs.

The causes which produced the pathological changes noted could not be made clear. The case also shows how physical signs fail us in attempting to make a diagnosis in such conditions. The chest was carefully examined by two justly distinguished experts in pulmonary disease.

The fibroid condition of the lungs, with surface roughened from dilated air vesicles, produced, no doubt, the extensive creaky râles, and the cirrhotic condition of the connective tissue markedly lessened the expansive power of the lung, thereby accounting for the specially troublesome symptom, dyspnœa.

[At the conclusion of the reading of Dr. McCollom's paper at the Brooklyn meeting, specimens of the lungs were exhibited, and Dr. Flint made some remarks in which he said that he remembered the case perfectly well, having made some notes himself upon it. He had not heard of the patient's death before, but he was very glad to know the result of the autopsy. When he made the examination of the chest in consultation with Dr. McCollom, he could discover nothing but the presence of a moist râle on both sides. He then felt quite sure that the patient had disease of the kidneys, and requested specimens of the urine. When, however, the examination of the latter gave a negative result, he felt at a loss in regard to the case, and asked to be allowed to see the patient again.

The condition of the lungs found after death, he said, completely explains the progressive dyspnœa, and at the same time it serves to illustrate the inadequacy of physical signs under certain circumstances. The remarkable point about this case is the equal development of the pulmonary cirrhosis on the two sides. Almost invariably the condition is much more marked in one lung than in the other; so that the difference between the two sides of the chest is very apparent. The existence of moist râles in connection with a normal condition of the heart seemed to him positively to indicate kidney disease, and he was therefore surprised to find that the urine gave no evidence of this. On the whole, therefore, he considered it a very interesting case, and the specimens that had been presented he believed were unique. He thought it also worth while, in this connection, to call attention to the mechanism of subcrepitant râles. One observer, as the history showed, had referred these râles in the present case to the presence of pleuritic adhesions. From the result of the autopsy, however, it was pretty evident that here the subcrepitant râles were produced in the smaller bronchial tubes, and not in the pleuræ.—*Ed.*]

ARTICLE V.

INCISED WOUND OF THE PENIS. By L. W. RAISON, M. D., Red Bank Furnace, Pa.

In the month of August, 1885, I was called to see a patient who, by an odd circumstance, had almost amputated his penis. The history of the accident, as related by the sufferer, was most peculiar. While in the act of micturating, the penis being semi-erect, a large ant crept up his trousers leg and took a voyage of discovery, by running out on the organ, and instinctively the man struck at it to brush it off, forgetting at the moment that he had open in his hand a large, sharp penknife, with which he had just been whittling. The sharp edge of the knife penetrated the dorsum of the penis about an inch back of the corpora glandis, and passed through the corpus cavernosum of the right side of the organ, dividing the urethra in its exit.

He expected in a short time to marry, and was consequently in great anxiety on account of fear of a disfigurement from the loss of part of the organ. I encouraged him, however, with the statement that the member would heal kindly and that no evidence of its injury would be left except a scar. The nearly severed end of the organ was approximated as closely as possible to its original position, a catheter of large size was introduced into the bladder to prevent or counteract the tendency to contraction of the urethra at the point of separation, and several silk sutures were introduced through the skin to keep the parts in close coaptation during the healing process. The patient was then directed to keep the orifice of the catheter closed by the use of a small plug, except when he wished to void his urine.

The instrument, which caused little or no irritation, was worn for a week's time and then dispensed with. The penis healed kindly by first intention, and no stricture of the urethra or other difficulty resulted, the only discoverable disfigurement of the organ being a small cicatrix of about two lines in width, extending partly around its surface.

ORIGINAL TRANSLATIONS.

PAINFUL DEFORMITIES OF THE FOOT CAUSED BY MUSCULAR IMPOTENCE. COMMUNICATION MADE TO THE MEDICAL SOCIETY OF PARIS. By DR. HENRI THORENS, Secretary-General. Translated from *L'Union Médicale* by H. McS. GAMBLE, M.D., Moorefield, West Va.

Painful deformities of the foot have been the subject of many works since the time of Duchenne, of Boulogne, to whom especially belongs the honor of having established their pathology and of having described the greater part of their clinical forms. But in spite of this abundance of works, notable differences of interpretation present themselves, and, above all, in regard to their mode of production; recent publications are the proof of it.

These deformities are presented under different types. Most frequently that is observed which has been described under the name of flat-foot, painful flat-foot, painful valgus, and what M. Gosselin has particularly had in view in describing the tarsalgia of youth. But this is only one species of a whole genus of deformities, all of which recognize the same pathology.

There are still two prevalent theories to explain—not the ulterior phenomena of the affection—upon this point there is almost entire agreement—but its mode of commencement.

For M. Gosselin it is the bones of the tarsus; for M. Tillieux, the tarsal ligaments, which are first attacked and afterwards determine reflex contractures of the motor muscles of the foot upon the leg; for others, with Duchenne de

Boulogne, it is, on the contrary, the muscles which are primarily attacked, their equilibrium which is disturbed; and their deviation is consecutive to the paralysis or the contracture of certain ones among them.

It is this latter opinion which seems to us the best founded, and in favor of which, we believe, we can bring some arguments to which attention has not been sufficiently directed.

What are the true ligaments of the foot, or, rather, what are the real agents which maintain the bones of the foot in their normal relations with each other and with the bones of the leg? They are the muscles, and we can extend this proposition to the physiology of all the articulations. The ligaments, properly speaking, more or less rigid and inextensible, maintain the bony parts in contact with one another, establish the continuity of the parts of the skeleton, whilst, at the same time, they allow them a certain amount of mobility; but their action takes place only after that of the muscles. The latter are, at the same time, motor organs and organs of support and of resistance. They are veritable shrouds acting not only in an intermittent manner by virtue of their contractility, but likewise in a permanent manner by virtue of their tonicity and of their elasticity.

We cannot nor do we wish to enter here into all the theories which have been advanced in physiology upon the identity of, or difference between, tonicity and elasticity; attributing the first to the contractile substance, the second to the intra-muscular cellular tissue. We will accept the theory of Kuss (Physiology, page 82; Beaumies, page 257), which has the advantage, without possessing the particular phenomena, of rendering an account synthetically of the facts of clinical observation. For our master of Strasburg, a muscle in repose never has its natural form; it is always stretched beyond its natural length, and exercises thereby a certain degree of traction upon its points of insertion. This tonicity, or rather this muscular tension, or this elasticity is, in fact, a vital property; for it is a property of the lining muscle, and it is one of the first which disappears when the nutrition of the muscle is disturbed, whether by death, by the section of a nerve, or by an arrest of the circulation. It results therefrom that even in the state of repose, of inactivity, the muscle exercises a traction upon the bones upon which it is inserted, and we shall see of what importance is this continued, permanent traction, under the exclusive dependence of a property purely physical and consequently not subject to fatigue.

This traction intervenes in the normal play of the articulations, and limits the extent of their movements. The experimental proof of it is easy to give. With the concurrence of an assistant, have performed upon one of your articulations—the knee, for example—more extended movements than those which you ordinarily impose upon it; long before having reached the limit of the extensibility of the ligaments that control the flexion of the knee, you experience a traction, often painful, in the body of the rectus, and the sensation allows of no deception as to its seat; only when this resistance is overcome, do you feel any articular inconvenience. Another more simple experiment: the knee extended, flex the foot, then flex the knee, and you immediately see the flexion of the foot increase. But what have you done? By the flexion of the knee, you have approached the points of insertion of the gastrocnemii, and increased by so much the extent to which the sural triceps can be elongated, hence diminished by so much the resistance that it opposes to the action of the flexors of the foot.

When the muscle has become active, when it is contracted, its elasticity has not diminished; quite the contrary, and it is often through the sole intermediary of this elasticity that its action is manifest. An example will explain. In the sitting posture, upon a seat as high as the leg is long, the leg flexed to a right angle, the foot rests upon the floor upon its whole plantar surface and is found to be sustained without any contraction of the muscles of the leg; they concur in maintaining its form only through the action of their tonicity. In the erect position, the foot rests equally upon the floor; nothing is changed in the exterior form of the parts. But the action of the muscular tonicity, of the elasticity of the muscle in repose, is insufficient to contend against the action of the gravity, of the weight of the body; the muscles, above all the extensors, have contracted, they have shortened themselves and consequently increased by so much the force of the traction which they exercise upon the bones. But they cannot be kept thus without the production of fatigue, and this contraction cannot be maintained for a long time.

Duchenne has established the fact that in every voluntary movement, the muscles productive of these movements enter into play synergetically with their antagonists, which serve as moderators to them. (Phys., p. 276; Elect., p 1040).

Let us remember, moreover, that a physiological movement is rarely the result of the contraction of a single muscle. And to take an example from the foot, the flexion of the foot results from the simultaneous action of the anterior tibial flexor adductor, and of the common extensor flexor abductor; extension from that of the triceps (posterior tibial?) extensor abductor, and of the long peroneal extensor abductor.

The knowledge of the direction and of the points of attachment of a muscle, electro-physiological experimentation or experiments by means of anatomical preparations may indicate to us what the action of an isolated muscle is; but the knowledge of this action does not suffice to indicate to us its function. It is necessary, in fact, to take account of the action exercised by the motor muscles, direct or indirect, of the same articulation; to take account of what Duchenne has called the harmony of the antagonists, and we should add, and of that of the synergetic muscles.

By the very fact of its elasticity, of its distention in the state of rest, a muscle which has contracted, and which has determined a movement, does not return to its primitive dimension when once the contraction has ceased; its elasticity, its tonicity prevent it. It requires the action of its antagonist to bring it back to its place.

It is indispensable to lay down these premises before proceeding to the study of deformities of muscular origin. To confine ourselves to the foot, we are not going to revert to the anatomy of this organ, nor to its arched form and its utility, nor to the points d'appui of the plantar arch, the heel, the external border and the ball of the foot, or anterior extremity of the first metatarsal bone.

Let us remember, only, as we have already demonstrated, that in the movements of flexion and extension of the foot upon the leg, the foot forms but a whole with the astragalus, and moves with it upon the bones of the leg; that in the other movements the foot moves upon the astragalus forming one with the bones of the leg. These last movements are complex. Extension, that is to say, the movement from before backwards of the calcaneum under the astragalus, causes a very slightly marked abduction, followed almost immediately by inversion of the plantar surface of the foot with abduction of the same. Flexion, that is to say, the movement from behind forwards of the calcaneum under the astragalus, entails the lowering of the internal border of the foot, abduction of the point, and the turning out of the plantar surface.

Let us consider a fact which has perhaps not been sufficiently attended to. The vertical axis of the leg (the astragalus being considered as one of the bones of the leg) falls outside of the vertical axis of the calcaneum. It is sustained inside only by the little apophysis of the calcaneum; this support seems well reinforced, up to a certain point, by the presence of the tendons of the muscles of the deep posterior region of the leg. But one can understand how this disposition, especially in young subjects, in whom the development of the internal portion of the foot has been checked, favors the distortion of the foot into valgus.

This takes place so much the more easily as that, whilst powerful ligaments unite the calcaneum to the cuboid and to the external bones of the foot, the internal articulations are more lax and more numerous. Duchenne is said to have demonstrated upon a large number of feet, of which all the motor muscles had been atrophied for several years, that there was no other apparent deformity than a slight valgus of the hinder part of the foot. The calcaneum, pressed between the weight of the body and the resistance of the ground, has a natural tendency to turn outwards in the calcaneo-astragalian articulation. If it is thus in paralyzed feet, and if the foot preserves its shape when all the muscles are sound, it is evident that it is to the synergetic action of the muscles that this phenomenon is due.

But these muscles act upon the tibio-tarsal articulation and the sub-astragalian articulations (sous-astragaliennes). Let us recall briefly their functions: The direct extension of the foot is the result of the simultaneous contraction of the (post-tibial) sural triceps and of the long peroneal. The first is an adductor-extensor; by a primary action it brings the hinder part of the foot and the inernal portion of the fore part strongly into extension; by a secondary action it determines the adduction of the toe of the foot and the inversion of the plantar surface.

The peronæus longus acts more freely upon the tibio-tarsal articulation, but it lowers the posterior extremity of the first metatarsal, downwards and outwards, upon the first cuneiform, the latter upon the scaphoid and the third upon the astragalus; there results an increase of the plantar arch, hollow foot through twisting of the internal part of the foot upon the cuboid; continuing its action, this muscle acts upon the subastragalian articulation in such a manner as to bring the point of the foot into abduction and to turn the plantar surface outwards.

The direct flexion of the foot is produced by the synergetic contraction of the anterior tibial, flexor, adductor, and of the common extensor of the toes, flexor, and adductor. The anterior tibial produces motion from below, upwards, and from within, outwards of the first metatarsal upon its cuneiform; the latter upon the scaphoid, and this last upon the astragalus; there results from this an effacement of the plantar arch with enlargement of the transverse diameter of the fore-foot and inversion of the sole. This muscle is, from this standpoint, the antagonist of the long peroneal. The contraction continuing, it flexes the foot upon the leg, a flexion attended with adduction of the toes and inversion of the plantar surface. The common extensor of the toes after having produced extension, especially of the first phalanx, flexes the foot upon the leg, and causes its abduction with eversion of the sole. Besides, by its tonicity, it prevents the inflexion of the fore part of the foot upon the hinder part.

The short peroneal and the posterior tibial are, the first, a direct abductor; the second, a direct adductor of the foot. Both flex the foot when it is strongly extended, extending it when it is strongly flexed—in a word, bringing it back to flexion to a right angle. If instead of confining ourselves to the examination of the muscles in a state of rest, we begin the study of locomotion we still see the important rôle played by the muscles of the toes; their rôle consists essentially in producing simultaneously flexion of the first phalanges and extension of the last. They act especially when the toes, and principally the first, are strongly lowered after the foot is lifted from the ground, from the heel to the metatarsals, in order to give to the body the final impulsion forwards. If it were otherwise, the terminal phalanx would be applied to the ground, and in that case walking and standing erect would become painful.

It is these muscular actions, synergetic and antagonistic, that maintain the foot in its normal shape; they permit it to accommodate itself to the modifications which standing, walking, running, jumping, and the varied surface of the ground upon which it rests continually exact, and to return immediately to its original form. The muscles act not only as organs of movement, but also as organs of preservation and support; they are veritable ligaments, feebly and perfectly elastic, and their movement of action arises before that of the fibrous ligaments, strongly and imperfectly elastic.

Let us take for example the arch of the foot. It is maintained by the tonicity of the long peroneal, the shortening of which would produce a hollow foot—

valgus equinus—and against which is opposed that of the anterior tibial, the shortening of which would produce a flat foot—talipes varus. Let us examine a foot divested of its muscles, and of which all the ligaments have been preserved. It is easy to efface its plantar arch, whilst we cannot succeed in doing this if a sufficient degree of traction is exercised upon the tendon of the long peroneal. It is only when the resistance offered by the latter is overcome that the resistance of the ligaments is brought into action.

If we are allowed to reason from analogy, let us remember that in the living subject the ligaments of an articulation at rest are not stretched; it is not they that determine the position which the bones assume. In the scapulo-humeral articulation, if the head of the humerus is maintained against the glenoid cavity, it is because of the tonicity of the deltoid; we have the proof of this in the dropping of the arm which follows paralysis of this muscle.

The same is true of the plantar arch, and we have a right to say that the external causes which bring about the weakening of the plantar arch act upon the ligaments and are able to stretch them only when the action of the long peroneal has been overcome.

Let the muscular equilibrium be broken, the muscles whose tonicity or contractility predominate, determine a deformity by their preponderant action. I do not intend to give the clinical history of all these deformities; they have been drawn by the master hand of Duchenne (de Boulogne), and I can only refer to these descriptions.

The clinical phenomena correspond too exactly to the results derived from physiological experiments and foreseen from the anatomical arrangement, for it to be possible to cast a doubt upon their correctness, and they prove the necessity of muscular harmony for the maintenance of the form of the foot. The articular deformities are produced only after the muscular troubles.

In order that the muscular equilibrium be destroyed, that these shrouds (haubans) may no longer exercise an equal traction each in its own direction, it is necessary either that the traction on one side be weakened or that that of the other be increased; in other words, that a muscle be paralyzed or impotent, or that its antagonist be contractured.

In the cases of infantile paralysis, the deformity is generally considerable, and everybody will be in accord as to its interpretation. If a muscle is paralyzed, its antagonist acts by its tonicity, it is shortened in contracting, and the paralyzed antagonist cannot bring it back to its primitive dimensions; weight has its effect; there is produced a vicious position which in time becomes more or less permanent. There is no doubt admissible upon the account of this mechanism. It is that which gives rise to the different forms of acquired paralytic club-foot; we merely mention them.

But are there not other cases in which the paralysis may be less pronounced? Instead of a whole group of muscles, it is a single muscle, a single portion of a muscle, which is attacked; it is not paralysis, but paresis, muscular weakness, what Duchenne, in a very comprehensive word, calls impotence. And this weakness, this impotence, bears not only upon the contractility, but upon the elasticity, which varies, like the former, according to the state of the nutrition of the muscle. In this case, instead of those great and evident deviations, we have to deal at the beginning only with a scarcely apparent deformity. It is only in the course of time that, under the preponderant action of the antagonists, under the influence of the weight of the body, the deviation becomes permanent. The patient presents scarcely any objective phenomenon; but still the normal play of the foot is disturbed; standing and locomotion, sometimes only certain forms, are impossible or painful, and under certain variable circumstances the points of support of the foot are modified, whence pressure upon badly protected cutaneous surfaces, callosities, etc.; certain articulations are brought into play in a sense other than that of their ordinary movements; hence all the classically described painful phenomena, all the phases of tarsalgia. But we ought to find theoretically, and in practice we always find at the beginning, a muscular disturbance, a want of harmony, then impotence of some muscle or other. This muscle may vary. Most frequently it will be the long peroneal, the impotence of which produces the flat foot valgus; but it will sometimes be the anterior tibial which causes varus equinus, with bending of the toes; it will be at times the interosseous, with griffe pied creux, as in a case which I presented to the Société Médico-pratique.

These cases of muscular impotence are not peculiar to the foot, and have not been invoked in order to sustain an *a priori* conception. Is not scoliosis equally often the result of an impotence of the spinal muscles? The period of life at which tarsalgias are produced is that of youth and adolescence; that is to say, the period of growth, in which the equilibrium of all the forces has not yet been reached; in which external causes act more powerfully upon young tissues weakend by their development.

Adolescence should be compared, in this connection, to early childhood, and notably do these two ages present numerous analogies, as far as regards the production of deformities. When we attentively examine a child who is beginning to walk, once it has passed the period of the first steps, we can lead it out on foot. The deformities of the foot are then extremely frequent and essentially of muscular origin. They are, it is true, favored by the more incomplete development of the skeleton of the foot, which, as I have demonstrated, favors the production of varus. But there is a deviation of the point of the foot inwards through impotence of the outward rotators of the thigh (gluteal, tensor of the fascia lata) and predominance of the abductors; there is sometimes adduction of the internal border of the foot, a tendency to turning up of the sole. We are often consulted about such cases, and they are cured by the employment of general remedies, of massage, of tonics, of roborants. It is an analogous phenomenon that takes place in adolescents with tarsalgia, in whom it is still favored, as has been remarked in the greater part of the observations, by the action of external depressing causes: bad hygiene, overwork, the influence of cold and humidity. And, almost always, when we can go back far enough into the history of the antecedents, we find that the patient, at a certain time, sometimes quite remote, before the appearance of the deformity, has experienced pains, weariness, cramps in the paralyzed muscles, signs of the primitive muscular disorder which have escaped unnoticed.

Instead of being weakened, the muscles might be endowed with an exaggerated tonicity and contractility; instead of being stretched, they might be primarily shortened; there might be a contracture.

I strongly doubt the existence of a primary contracture; or rather I demand that there shall be agreement as to what a contracture is. It is only a word to designate the shortening of a muscle, and this word has the fault of carrying with it the idea of a sort of active state on the part of the muscle. The most opposite conditions have here been associated. I believe, with M. Dally, that the term contracture should be reserved to muscular rigidities, with or without shortening, entirely removed from the action of the will and kept up by a chronic or acute lesion of the nerve centers. Some, direct, are connected with primary lesions of the brain and of the spinal cord (medullary sclerosis, paralysis agitans, general paralysis), others, reflex, are produced by the transmission of a visceral or peripheral pain (tetanus, hysteria, cramps). It is necessary to separate from them a state of muscular rigidity which is not removed from the control of the evil, contraction from apprehension, and the shortening of adaptation.

Contractions caused by apprehension, by muscular vigilance, are frequently observed in the course of arthritis: it is they which, if immovability is not produced by an apparatus, maintain the member in a fixed position; but these contractions are not permanent, this is the character of contracture; they are maintained by a reflex action and by the force of the will; but they induce a fatigue to which the patient yields; he goes to sleep, the contraction ceases, the articulation moves, the pain reappears, the patient awakes and contracts his muscles anew. At length, these prolonged contractions may, it is true become the point of departure of shortening of adaptation.

Are these contractures or these prolonged contractions met with in tarsalgia? Yes, but not primarily. They appear only when the paralysis of a muscle has induced sprains repeatedly, in consequence of the disturbance caused in the mechanism of walking or standing. They yield rapidly to rest of the member.

The shortening of adaptation is consecutive to the paralysis, to the paresis, or to any other lesion which suppresses the action of the antagonists; the latter no longer act to determine the elongation of the sound muscle after its contraction; the tonicity of the latter is no longer counterbalanced; the shortening persists and is not long in becoming permanent. These shortenings by adaptation are observed again as the result of articular deformities; the permanently bad position given to the member causes the approximation of certain points of insertion, the separation of certain others; hence shortenings and elongations. This is true not only of the muscles, but even of the ligaments of all the soft parts.

The muscular shortening is only one of the particular cases of the application of a general law. These shortenings are produced in the last stage of tarsalgia; but one will never meet with them at the beginning of the affection. One may convince oneself of this by proceeding at this stage to the electrical examination of the muscles; it is normal in those which appear shortened, but it is weakened, when it has not entirely disappeared, in their antagonists. These contractions, which are often described as causes of the deformity, are nothing else than the action of a normal tonicity, which is no longer maintained in equilibrium by that of its antagonists; and the proof of it is in the cure of these so-called contractures by faradization of the antagonists.

We come thus to the conclusion that the painful deformities of the foot, generally designated under the names of tarsalgia, painful flat foot, etc., are the result of a rupture of the equilibrium of the antagonistic muscles, a rupture consecutive to the weakening, impotence, paresis, or paralysis of some one among them.

The articular lesions, the contractures, are only secondary lesions, which may at a certain time seriously complicate the deformity.

The principal indication of the treatment is, then, to re-establish the integrity of the muscular equilibrium. Stimulants, local and general, frictions, massage, electricity, gymnastic exercises, passive and active, will be its basis and will suffice in recent cases. In the more inveterate cases the deformity may require the wearing of a supporting apparatus; but a complete and lasting restoration can only be hoped for upon the condition of being able to succeed in restoring the muscular functions. Once the inflammatory phenomena arrested, it is necessary to have recourse to an apparatus which allows movement of the parts, whilst resisting the too-preponderant action of the sound muscles. It is in these cases that we find very advantageous the employment of elastic tractions, applied as exactly as possible in the direction of the muscle which they are called to supplement. I have personally obtained from them better results than from the soles sloping on both sides (en dos d'âne); these latter often compress the sole of the foot in a painful manner. I prefer to them a steel sole, simply fixed at the heel, and of which the anterior portion, free in the shoe, acts by virtue of its elasticity.

LECTURES.

FOREIGN BODIES IN THE NOSE. A lecture delivered at the New York Polyclinic, by D. BRYSON DELAVAN, M.D.

Prepared by the author expressly for Gaillard's Medical Journal.

The impaction of a foreign body in the nose is an accident of such common occurrence that most physicians, be their practice general or special, are likely to have had more or less opportunity for the study of cases of this class. The subject is, at the same time, an important one, as well from the severe and even dangerous symptoms which may result, as from the ease with which, as a rule, the difficulty may be remedied.

In dealing with it it will be necessary, first of all, to have a clear idea of the topography of the nasal chambers, together with a correct appreciation of the nature of the soft tissues by which they are lined.

With reference to the former, it must be remembered that the nasal fossa is a canal, wider at the bottom than at the top, and most spacious through those parts known as the inferior and the middle meatus.

Communicating with it are several sinuses, of which the most accessible are the frontal sinus and the antrum of Highmore.

Foreign bodies are, of course, most likely to be found in that part of the canal possessing the greatest diameter. Hence the inferior meatus is their most common place of lodgment. Any object sufficiently small, and capable of locomotion, such as an insect, may find its way into one of the adjacent sinuses. The mucous membrane which lines the nose is particularly delicate in its construction and acute in its sensibility. It is also highly vascular and capable of an extraordinary degree of distension. A foreign body may, therefore, give rise to great irritation, as may also the attempts of the surgeon at its extraction.

The variety of foreign bodies which have been found in the nose is very great. The list comprises extraneous substances, introduced either by accident or design, by infants or insane adults; sequestra of diseased bone; and parasites.

The history is usually as follows: A child of about two years of age, old enough to creep, but not sufficiently intelligent to know better, thrusts some small, rounded object, such as a bean or a shoe button, which he has accidentally found upon the floor, into its nostril. If the child be not caught in the act, the body may escape immediate detection. Soon symptoms of chronic inflammation are established. These are confined to the nostril in which the body is, and continue until it is removed, the irritation often being severe and the discharge extremely fetid. The mucous membrane adjacent to the foreign body is in a condition of superficial erosion; the body, if too firmly impacted to be dislodged by simply blowing the nose, remains fixed until removed by the surgeon. Not infrequently the presence of a foreign body passes unsuspected and the child is treated indefinitely for simple catarrh. The writer has seen cases where a body impacted in the nose has been carried for nine, eleven, and in one instance for fourteen years, although in every instance the patients had been under medical treatment. In all cases of fetid catarrh, particularly when confined to one side and dating back to infancy, careful examination with speculum and probe should be made, the nostril having first been thoroughly cleansed by means of a warm douche and the presence of a foreign body excluded before a positive diagnosis is made. In simple cases of foreign body a gentle stream of warm salt water carried through the free nostril and out of the other, or a sternutatory, may succeed. Generally more active measures will be required, when removal must be attempted by means of a hooked probe or a fine forceps. The sensitiveness of the nasal mucous membrane must be borne in mind, and if after two or three gentle and carefully directed efforts success be not attained an anæsthetic should be given and the removal of the body carefully accomplished. If the object be lodged far backward care must be taken in removing it not to push it into the pharynx and thus possibly allow it to fall into the larynx.

Dr. Sajous, of Philadelphia, suggests the following ingenious device: In cases where it is difficult to grasp the object pass a loop of fine wire through the nostril and *below* the body into the pharynx; then pass another similar wire *above* the object. Draw both loops forward to the mouth and attach to each a piece of tape. Draw the tape from behind forwards until the object is included by it, when the latter may be drawn from the nostril as by a similar device a cork is drawn from a bottle.

I desire to call your attention, however, to a method which I have lately employed and which seems superior to any heretofore practiced.

Among the many valuable qualities of cocaine is its well-known power of contracting the blood vessels of the erectile tissue of the turbinated bodies and the nasal septum, and thus of producing the complete collapse of these parts when congested and turgid. Under its influence a nasal canal which is well-nigh impervious will quickly expand until the passage becomes wide, ample, and spacious. Moreover, its action is, in most cases, completely anæsthetic.

To remove the foreign body first cleanse the mucous membrane anterior to it. Then apply thoroughly to the membrane a four-per-cent solution of cocaine, repeating the application if necessary after the lapse of about five minutes. The engorged and thickened tissue will quickly retract, and the passage thus having been widened the body may often be extruded by simply blowing the nose. Should it still be so firmly impacted as to require the use of an instrument its removal will be greatly facilitated by the anæsthesia of the parts as well as by the additional space provided. The copious hemorrhage which commonly results from the old method of extraction, although generally of little moment, is not likely to follow after the use of cocaine.

The site of the foreign body is usually marked by an apparently severe condition of ulceration of the mucous membrane. This appearance is in most cases deceptive. The nostril should be washed several times a day with a weak disinfectant, preferably a solution of the permanganate of potassium. In four or five days the membrane will have healed so completely that often no trace of trouble can be seen; the discharge ceases entirely and cure is complete.

Foreign bodies or inspissated mucus sometimes become the nuclei of the so-called rhinoliths, or nasal calculi, concretions formed by an accumulation of the earthy salts of the nasal secretions. Their presence has not infrequently given rise to so much irritation that the appearances presented have been mistaken for cancer. The history of the case, together with a careful examination with speculum and probe will easily establish the diagnosis. If they are too large to be easily removed they should first be crushed by a lithotrite of proper size. Sequestra of bone, particularly in tertiary syphilis, sometimes remain in the nasal cavity after their separation, thus acting as foreign bodies. They must be thoroughly removed, not only as a preliminary measure to further local treatment, but also because, like any other loose object, they may fall into the larynx, with disastrous results. A case is recorded in which a large section of the vomer escaped during sleep and was drawn into the trachea.

Foreign bodies of extraordinary size, such for instance as the breech-pin of a gun, have been forced into the nasal cavity from without, and have only been discovered post-mortem after the lapse of several months.

In tropical countries, seldom elsewhere, various kinds of flies, of the order *muscidæ*, may enter the nasal cavity, preferably of a patient suffering from catarrh, and there deposit their eggs.

This distressing condition, although by no means confined to that country, has been met with most frequently in India, where the Hindoo practitioners have given it the name "Peenash." Cases are occasionally reported from our Southern States and from Mexico, while even Massachusetts and Illinois have not escaped. The history is usually as follows: While the individual is sleeping in the open air a fly enters his nose, and, penetrating to a greater or less depth, sometimes even into the frontal sinus, there deposits numerous eggs. These, by the warmth and moisture of their surroundings, are quickly hatched, causing in succession irritability, tickling, and sneezing; later, formication, bloody discharges, and epistaxis, with redness of the face, eyelids, and palate: excruciating pain—generally frontal—insomnia, and, if the condition continue unrelieved, convulsions, coma, and death.

Sometimes the larvæ are sneezed out, or they may be seen on examination of the parts, which, of course, will establish the diagnosis.

The destruction caused by them may extend to the mucous membrane, the cartilages, and even to the bones of the head, the ethmoid, sphenoid, and palate bones having been found carious. The extension of the destructive processes is often very rapid. From the terrible nature of the difficulty, as briefly sketched above, it is evident that the true condition of affairs should be recognized at once, and that the treatment should be pursued with great promptness and efficiency. The old method consisted in syringing out the offending objects by the aid of various mixtures, prominent among which were solutions of alum, of tobacco, and of camomile, while insufflations of calomel and numerous sternutatories were also used. That these means were entirely inefficient is plain when the impossibility of causing fluids to penetrate the sinuses, and the unfortunate results of the cases so treated, are considered.

Far more rational and scientific is the method proposed for the expulsion of larvæ from remote sinuses by our late distinguished countryman, Dr. John Ellis Blake, and first published by him in *The Boston Medical and Surgical Journal*, April 10, 1862. This consists in the application to the orifice of the sinus of the vapor of chloroform or of ether, preferably the former. The effect of this is to cause the maggots to seek relief from suffocation by escaping with all haste to the outer air, so that they are not only destroyed, but, at the same time, removed. This latter is a most important feature, for, by the old plan, even if the solution used succeded in destroying their activity, they still remained behind to irritate the parts as foreign bodies and to become probable sources of septic infection. In some cases the simple inhalation of the anæsthetic has been effective; in others, however, a more thorough application seems to have been required, and for these the injection into the nasal cavity of chloroform diluted with water has been recommended.

We would deprecate this latter procedure as both painful and dangerous, and would again urge the value of the drug cocaine, suggesting that it be used as follows: First gently cleanse the nasal space with a mild alkaline solution; then secure complete insensibility and complete retraction of the mucous membrane by means of cocaine, applying it with especial care to the vicinity of the canal leading to the frontal sinus, should that cavity seem to be invaded, in order that the approach to it may become as patent as possible Finally, allow the chloroform to be inhaled, and, if this do not succeed, place some chloroform in an atomizer and force it into the upper and anterior part of the nasal space in the form of spray.

Besides the larvæ above described, cases, fortunately very rare, are recorded, in which leaches, ascarides, earwigs, and centipedes have been found in the nose, where their presence has caused insomnia, frontal pain, sanious discharge, lachrymation, vomiting, and, in some cases, great cerebral excitement. Sternutatories have generally succeeded in effecting their expulsion. It may be necessary, in extreme cases, to trephine the frontal sinus.

From the personal experience of many of you, as well as from what has been said herein, it is plain that this subject is by no means one of slight importance. In the management of all cases, early recognition of the condition is of the utmost necessity, for not only will much pain, trouble, and expense be spared to the patient, but consequences most serious and even fatal may be averted. Careful and thorough examination of the nasal cavities in all suspected cases therefore, cannot be too urgently insisted upon.

SELECTIONS.

VULVAR AND VAGINAL ENTEROCELE.* By T. GAILLARD THOMAS, M.D., Surgeon to the New York State Woman's Hospital.

There are five varieties of hernia which may show themselves in the vagina and vulva:

1. Cystocele, or hernia of the bladder.
2. Rectocele, or hernia of the anterior wall of the rectum.

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* Read before the New York Academy of Medicine, December 17, 1885.

3. Vaginal enterocele, or descent of a portion of the small intestines into the vagina.

4. Pudendal enterocele, pudendal hernia, or descent of the small intestines into the labium majus of one or both sides; and

5. Perineal enterocele, perineal hernia, or descent of the small intestines by protrusion through the perinæum.

Were one inclined to go very fully into detail, other varieties might be given, based upon the contents of these hernial sacs, in which the ovaries, the uterus, and the Fallopian tubes, either empty or filled with the products of conception, have in exceptional cases been found; or upon some extremely rare and extraordinary development of this condition—such, for example, as one case mentioned by Burns and quoted by Sir Astley Cooper, * in which the base of the bladder, passing down alongside the right wall of the vagina, formed a hernia in the labium majus of that side. For practical purposes, the varieties of hernia which I have mentioned will, I think, fulfil all the requirements of the case.

As the title of this paper announces, I propose to pass by herniæ of the bladder and anterior wall of the rectum, merely with the mention of them which has been made, and to confine my remarks to descent of the intestines through the pelvic roof, and their protrusion into the labia majora, into the vagina, or through the perinæum.

Although these varieties of hernia have been known for at least a century and more, it is curious to see how very generally they have been ignored in systematic treatises upon gynæcology. And this is the more remarkable since errors in diagnosis of them are very liable to occur, and, when occurring, would put both practitioner and patient in a most deplorable position. To sustain this statement let me refer to the most recent works upon gynæcology, which are now used as text-books by students of medicine in this country and in Europe. In the works of A. Martin, Hart and Barbour, and Emmet, no mention of vaginal and vulvar enterocele is made; in those of Barnes and Edis a mere mention is made, and in those of Courty and Thomas very short and unsatisfactory accounts are given.

Even in literature outside of systematic treatises, and in that of serial character, it is difficult to find much upon the subject. The truth of this will be appreciated from the statement that Littré and Robin, in their "Dictionaire de Médecine," published about ten years ago, quote largely, in their description of it, Sir Astley Cooper, who write as early as 1804.

In 1736, Garengeot was, according to A. Bérard, † the first to describe this form of hernia, and he was followed by Verdier, Hain, Sandifort, and Richter. As I have already stated, Sir Astley Cooper treated of it fully in his celebrated work upon hernia in 1804. The best account of it with which I have met is that given by A. Bérard in the "Dictionaire de Médicine," published in 1846.

* "The Anatomy and Surgical Treatment of Abdominal Hernia," by Sir A. Cooper.

† "Dict. de médecine," tome xxx, p. 460.

Instances of this accident have been put on record by the following writers: Davis, in his "Principles and Practice of Obstetric Medicine," Levret, Gunz, Boivin and Dugès, Smellie, Fordyce Barker, and Peter Young, of Edinburgh. The last-named gentleman published a very interesting paper upon the subject in the *Edinburgh Medical Journal* for April, 1882, and put upon record a striking case which illustrates most of the important features of the lesion when occurring during parturition and soon after it. In the transactions of the New York Obstetrical Society for 1878 will be found a very able and exhaustive article upon the subject by Fordyce Barker, containing several illustrative cases occurring during pregnancy and parturition, and detailing a valuable case reported by Dr. B. A. Clements, U. S. Army, in which eight distinct attacks occurred.

Vaginal Enterocele.—This variety of the disorder consists in a descent of the intestines into the pelvic cavity, either in front of or posterior to the broad ligament of one side. As Boyer and Richter long ago pointed out, the intestines never descend directly in the median line, either anteriorly or posteriorly, on account of the intimate relations of the vagina at these points. They always descend a little obliquely, and most frequently posteriorly.

Usually the intestines alone descend in these hernial protrusions, but sometimes the omentum accompanies them; and Petrunti has reported one case in which the hernial tumor consisted of nothing but omentum. Usually, too, it is the small intestines which form the hernial protrusion, but Levret * has put one case on record in which the sigmoid flexure of the colon did so, and Boivin and Dugès † mention one in which a portion of the large intestines came down as low as the perinæum and obstructed the vagina.

Vaginal hernia, as a rule, develops itself in the following manner, under the influence of causes which will soon be mentioned: A loop of intestine gradually pushes downward the prolongation of the peritoneum which forms the pouch of Douglas until it impinges upon the outside of the wall of the vagina and causes it to arch inward. This mechanical influence being continued and gradually increased, a tumor forms in the vaginal canal, inverts one wall of that canal more and more completely, and may end by escaping from the vulva and hanging outside the body, as a complete prolapse of the bladder or the uterus would do. Under these circumstances it is evident that the tumor which protrudes has for its component parts—first, the inverted vaginal wall; second, the peritonæum; and third, the intestines. Sir A. Cooper, in giving a description of these cases, says: "I wish it, however, to be understood that I have had no opportunity of examining this disease in the dead body, and that I am here describing it from what is known of the structure of the parts, and not from actual dissection." And Bérard, writing toward the year 1840‡ and declaring that it is very important to know whether "the entire thickness of the vaginal wall is inverted and forms the envelope of the tumor, or if the external coat is torn so as to present an opening through which the hernia passes, carrying before it only the internal tunic of the vagina," asserts that at that time Sandifort was the only author who had reported an autopsy, and that he had neglected to mention this point. In looking up the literature of this subject, I find reports of several autopsies, and yet, so far as I have been able to ascertain, this point still remains unsettled.

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* "Observations sur les polypes," Young's article, *loc. cit.*

† "Diseases of the Uterus," p. 511.

‡ The second edition of the "Dict. de méd." appeared in 1846.

Unquestionably the greatest danger which attends this form of hernia, and the same remark applies to the two other varieties which we shall consider, arises from the possibility of an error of diagnosis occurring from the practitioner's being off his guard, and therefore not sufficiently careful in the practice of differential diagnosis. The tumor occurring during labor and obstructing the progress of the fœtal head, a too rapid conclusion may be arrived at that an ovarian or parovarian cyst with a long pedicle has been pushed into the pelvis, a trocar and cannula are plunged in, and the operator is horrified at the escape of fæcal matter and intestinal gases. Or, if the condition be found to exist in the non-parturient woman, an effort is made to remove it, and, as this effort advances, the operator becomes painfully enlightened as to the error into which he has unfortunately fallen. Let me quote two cases to impress this important fact upon the minds of my hearers. The following is related in the *Centralblatt für Chirurgie* May, 1879: The woman, aged fifty-two, had had twelve children, the last born twelve years before. On examination, a swelling, about three inches long, reddish blue in color and covered by granulations and pus, protruded between the labia. A diagnosis of polypus of the uterus was made and the tumor removed. After suffering severe pain in the abdominal region for several hours, death ensued. Upon autopsy, there was found in the pelvis half a pound of liquid blood. A portion of the great omentum and a piece of the transverse colon had been cut away in the mass. In the posterior wall of the vagina there was an opening about five centimetres in diameter. Gunz relates the following: A woman had a tumor occupying one wall of the vigina and presenting at the vulva. A surgeon, mistaking it for an abscess, plunged a bistoury into it, intestines protruded, and the patient died of gangrene.

The most frequent cause for the varieties of hernia which we are considering to-night is parturition. Under the influence of utero-gestation all the pelvic tissues are greatly hypertrophied and relaxed, and, under the violent efforts of child-expulsion, the relaxed parts are strained by pressure from the intestines which are forced down upon them. Nevertheless, it must be borne in mind that some of the most striking cases of the accident which have been placed on record have occurred in nulliparous women. These are usually due to violent efforts, falls, and the previous existence of pelvic tumors which have burst or been removed.

Vaginal hernia, so long as it remains in the pelvic cavity and does not interfere with parturition, is usually a matter of little moment and the source of little inconvenience. As Klebs* points out, it is not prone to undergo strangulation, for the reason that, the peritoneal protrusion having no neck, constriction does not often occur. Under certain malign influences, however, occurring during parturition, as well as in the non-parturient state, such as pressure from the fœtal head, inflammatory processes, fæcal impaction, torsion of the contents of the sac, or the existence of a neoplasm, strangulation may occur.

The symptoms which are apt to develop are difficulty in locomotion, pelvic tenesmus, or "bearing down," colicky pains, dragging sensations, tendency to constipation, and, in time, vomiting. Should the accident complicate parturition, obstructed labor is apt to result.

Upon vaginal examination, a tumor of greater or less size is found in the vagina, and is diagnosticated by the following physical signs: It is supple, soft, and yielding; decreases upon pressure; gives a sense of gurgling to the finger if not to the ear; increases upon the patient's coughing or straining; yields resonance upon percussion, and is very generally reducible if the patient be placed in the knee-chest position and efficient taxis be practiced.

Vaginal enterocele may be confounded with the following conditions by a careless and rapid diagnostician: Prolapse of vagina, uterus, bladder or rectum, or a combination of these displacements; with vaginal cyst, parovarian, or ovarian cyst; with a fibrous tumor presenting low down in the pelvis; with a "cold abscess" of the pelvis; or with a marked case of tubal dropsy.

It will be seen by a review of the rational and physical signs already given that the behavior of a true enterocele of the vagina under pressure differs very much from that which would characterize the pathological conditions just mentioned.

Why, then, it may be asked, is such caution inculcated with reference to the possibility of erroneous diagnosis?

Because error creeps in from the practitioner's being too confident, too much off his guard, and too little inclined to consider the possibility of a mistake. If he approach these cases calmly, philosophically, and in a proper spirit of diagnostic investigation, it is very improbable that an erroneous diagnosis will occur. Most cases present striking features.

Sir Astley Cooper's† description of a case seen by him is so graphic that I can not refrain from quoting it at length. The patient was "a young woman, aged twenty years, who had never had children, and whose case, I was informed by Mr. Stocker, apothecary of Guy's Hospital, was worth examination on account of a tumor projecting into the vagina. She was ordered to place herself in the recumbent posture with the shoulders a little elevated, and, an examination being made *per vaginam*, I felt a swelling a little above the os externum vaginæ, the size of which was that of a small billiard-ball. It was situated at the posterior part of the vagina, but rather to the left side; it was elastic and not at all painful to the touch. When I compressed it, it readily passed away, but, upon directing her to cough was reproduced. When I ordered her to place herself on her knees the swelling became very tense, and much larger than before, and, when she coughed, it dilated as any other hernia, but more forcibly.

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* "Path. Anat.," p. 970.

† *Op. cit.*

"Having again placed her in the recumbent posture, I pressed the swelling entirely away by keeping the fingers about half a minute on the posterior part of the vagina, and then carrying the fingers higher up in the vagina, above the seat of the tumor, near to the os uteri, and, having pushed the vagina toward the rectum, I directed her to cough, and the tumor was not reproduced. Still pressing at the same part, I desired her to rise, and so long as the pressure was sustained, the hernia did not return, but almost immediately, as the fingers were removed, the hernia became as large as before."

No description could be more graphic than this as applied to hernia occurring posterior to the broad ligament.

It must be borne in mind that, like hernia occurring elsewhere, those forms which we are now considering may show themselves in two ways: first, by a brusque and sudden development marked by alarming and decided symptoms; and, secondly, by a development so gradual and uneventful as to symptoms as to escape recognition entirely until the mere mechanical results of the hernial tumor force themselves upon the attention of patient or physician. At the end of this paper I shall relate a very striking and remarkable instance of the latter form of development. An equally striking illustration of the former is given by Dr. Young, in the article already referred to, in which all the symptoms of incarceration of the intestines rapidly and unmistakably showed themselves to be entirely relieved by successful taxis.

In certain very rare cases acute vaginal hernia occurs as a consequence of some traumatic influence destroying the continuity of this canal in its upper part. A striking instance of this, which occurred in the service of M. Auger, is reported by M. Pennel, in *La France Médicale* for November, 1881. The patient, three months pregnant, endeavored to bring on abortion by the use of vaginal injections. One of these was immediately followed by violent colic, and in a few days after by abundant hæmorrhage, which continued for several days. At that time a loop of intestines escaped from the vulva, which could readily be returned to the abdomen, but would at once prolapse. On the day after this occurrence the cæcum made its appearance, as evidenced by the presence of the vermiform appendix. In time this proved to be irreducible, and gangrene occurred, followed by escape of fæcal matter. During the progress of this condition abortion took place and a fœtus was expelled. In time the vaginal opening of the intestine closed entirely, fæcal matters passed normally, and the patient made not only a complete but a rapid recovery.

Some years ago I called a consultation of two physicians in a case of interstitial pregnancy to decide the question of laparotomy. One of these gentlemen, anxious for an extremely thorough and conscientious diagnosis, refused to express an opinion until he had the privilege of passing his entire hand into the vagina. I acceded to his wish, anæsthetized the patient, and his desire was fulfilled. As he withdrew his hand, however, a loop of intestine escaped from the vulva through a laceration which he had made in the upper part of the vaginal canal. I at once put the patient in Sims's position, introduced a speculum, and sewed up the rent. The patient recovered after having narrowly escaped death from acute peritonitis, and my colleague the annoyance of a suit for malpractice.

I once saw a similar hernia follow an attempt to replace a retroflexed uterus by a sponge probang in the hands of a most able and cautious gynæcologist. As the retroflexed fundus was pressed upon, the sponge suddenly burst through the vagina into the peritoneal cavity, and, being withdrawn, came forth entangled in a loop of small intestine. The examiner at once sewed up the opening with silver wire, and the patient recovered without a bad symptom.

It is not so much in the acute as in the gradually developing, creeping, insidious cases that the danger of erroneous diagnosis lies in ambush for the unwary and impulsive surgeon.

Pudendal enterocele, or pudendal hernia, demonstrates its existence by the presence of an elastic tumor, about as large as a small hen's egg or a pigeon's egg, about the middle of the labium majus of one side.

It may originate in two ways. As Paul Broca* has fully pointed out, the round ligaments of the female, which are the analogues of the spermatic cord of the male, after passing down through the inguinal canals, lose themselves in two glove-finger prolongations of fibrous character, which run down through the labia majora. Following the course of these ligaments through the abdominal rings and the inguinal canal the intestines sometimes descend, as they do along the spermatic cord in getting to the scrotum, and reach their ultimate point of descent in these dartoid sacs. Again, they sometimes reach the pudendum by passing downward between the vagina and the ramus of the ischium, thus reaching the labium majus from within the pelvis. In its commencement the latter variety resembles exactly vaginal hernia; but, instead of inverting the vagina before it as that does, it separates the vaginal wall from the ischium and insinuates itself between these parts.

Some of the French writers† divide hernia of the labia majora, or pudendal enterocele, into two varieties: first, "anterior labial hernia," or that which eventuates from the inguinal form; and, second, "posterior labial hernia, or labio-vaginal hernia, or hernia forming by extension of the peritoneum down in front of the broad ligament and alongside the vagina to the vulva.

From inguinal hernia ending by descent into the labium majus the internal variety may be thus distinguished: (1) the finger, pushing the tumor upward, will pass into the pelvic cavity between the ischium and vagina; (2) at the level of the os uteri, or thereabout, it will enter the pelvic roof; and, (3) pressure being maintained on the inguinal canal, and the patient being ordered to cough, it will, in spite of the pressure, recur.

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*Cruveilher's "Anatomy," chapter "External Organs of Generation."

†De Sinety, "Manuel practique de gynecologie."

In diagnosis the following conditions of the labia majora may be confounded with pudendal hernia :

Cyst or abscess of the vulvo-vaginal gland ;
Cyst of the labium minus, or majus ;
Abscess of the labium majus ;
Fatty or fibrous tumor of the labium ;
Tumors descending from the pelvic cavity.

Dr. Galabin reports, in the "Transactions of the Obstetrical Society of London" for 1884, what he believed to be a hydrocele, an egg-shaped cyst, two inches and a half long, translucent, occupying the labium majus. It had existed three years in a patient aged fourteen, been tapped once, and a straw-colored fluid removed. Dr. Galabin divided the skin on a director, and found a cyst free except at the anterior end toward the inguinal ring, where a firm cord was divided. The patient recovered.

Saenger (in *Archiv für Gynekol.*, vol. xvi) reports two cases in which the contents of labial herniæ were found to be tumors of the broad ligaments. In one case, reported by Hecker, the woman, aged forty, had noticed since childhood a tumor situated in the right labium majus. This mass, formerly easily returned into the abdomen, was at the time of operation irreducible. An incision was made over the tumor, which was found to be a myoma of the ligamentum rotundum ; weight, three hundred and thirty grammes.

Paletta reports a case which was similar, a fibro-myoma of the round ligament being found as the contents of a labial hernia.

The differentiation of pudendal hernia from these conditions of the labia should be very carefully considered, for, if an erroneous diagnosis be made here, a fatal result might very probably prove the consequence.

The diagnostic signs which prove most reliable, and which may almost be styled as pathognomonic, are these : First, airy feeling upon palpation ; second, gurgling upon replacement ; third, diminished tension in the dorsal decubitus ; fourth, diminution of bulk upon taxis ; fifth, resonance upon percussion ; sixth, succussion upon coughing ; and, seventh, intestinal pains of a colicky character.

As I have already said in reference to vaginal enterocele, there are no very great difficulties attending the differentiation of the disease. The danger is that the possibility of hernia at this point may be forgotten and deductions drawn without considering it. Although the probability of error be not great, the appalling nature of the accident in which it would result warrants the relation of the following case, which is illustrative of its possibility : A patient called upon me with the following history : She had had an abscess just below the external abdominal ring, which, after poulticing, had been evacuated by her physician about a month before the time of her visit to me. After this she had felt well until a week before, when, after a muscular effort, the pain had returned with all the original signs of abscess, and these had continued although she had painted the part steadily with tincture of iodine, as she had been directed to do in case of such an occurrence. Being in great haste at the moment, I examined the enlargement while the patient was standing, and, under a recent cicatrix which was painted with iodine, I discovered what I supposed to be a reaccumulation of pus. As the patient came to me, in the absence of her physician, merely for the evacuation of this, I placed her in the recumbent posture, and, lancet in hand, proceeded to operate. But, to my surprise, I discovered that change of posture diminished the size of the enlargement. This excited my suspicions, and, upon further examination, I found that a recent hernia had occurred under the old cicatrix.

Perineal hernia may affect both male and female. In the latter it consists of the descent of the intestines between the vagina and rectum, the advance being made posterior to the broad ligament, and continuing until the perineal, muscles are forced apart, and the gut, with its peritoneal envelope, is arrested by the skin. In these cases Sir Astley Cooper declares that the hernial sac "protrudes as far as the skin of the perinæum, but it does not project so as to form an external tumor; its existence in the male can be only ascertained during life by an examination by the rectum; but in the female it may be felt both by the rectum and by the vagina. The sac lies between these two canals."

All these varieties of hernia are usually readily amenable to taxis, and this I have invariably in my experience found greatly facilitated by the knee-chest, or genu-pectoral, position. In some rare cases strangulation occurs. Under these circumstances the same surgical practice is indicated as in inguinal or crural hernia—namely, cautious opening of the sac and section of the constricting band by passing up a probe-pointed bistoury.

Before closing this paper, I desire to put upon record a remarkable case of extreme vaginal hernia, which presents some features which I have never met with in such literature of the subject as has fallen under my observation:

Mrs. K., a multipara of small figure and spare habit, thirty-nine years of age, residing in Middletown, Conn., called upon me in my office, and gave me the following history: About six years ago she noticed that a lump presented itself at the vulva, and that she began to suffer from difficulty in locomotion, frequent micturition, painful defæcation, dragging in the back and loins, colicky pains in the bowels, and general nervousness and malaise. During the past six years this tumor had steadily increased in size, until it had come down to the middle of the thigh on the right side. At the time I saw her she was greatly emaciated, and suffered so much from the symptoms which have been enumerated that she felt that any resource which held out the prospect of even partial relief would be a boon to her. While the tumor hung out of the pelvis, she could neither stand, walk, nor sit with any comfort, and when by taxis it was restored to the pelvis, she found it so very difficult and painful to empty the bladder and rectum that she was compelled voluntarily to force it out again.

Upon physical examination, as the patient lay upon the back, I discovered a large pinkish colored tumor hanging from the vulva, as represented in Fig. 1, and presenting all the gross appearances of a huge cystocele. As soon as a minute examination was made, it at once became evident that this superficial impression was entirely erroneous. The index-finger being passed around the tumor and up the vagina, the tumor was found to be attached to the ischium on the right side of the vulva, so that there was no vaginal space there at all, while on the left side it passed up readily and discovered the uterus almost out of reach in the left side of the pelvis. A catheter being passed into the bladder, that viscus was found high up above the pubes and obliquely in front of the uterus.

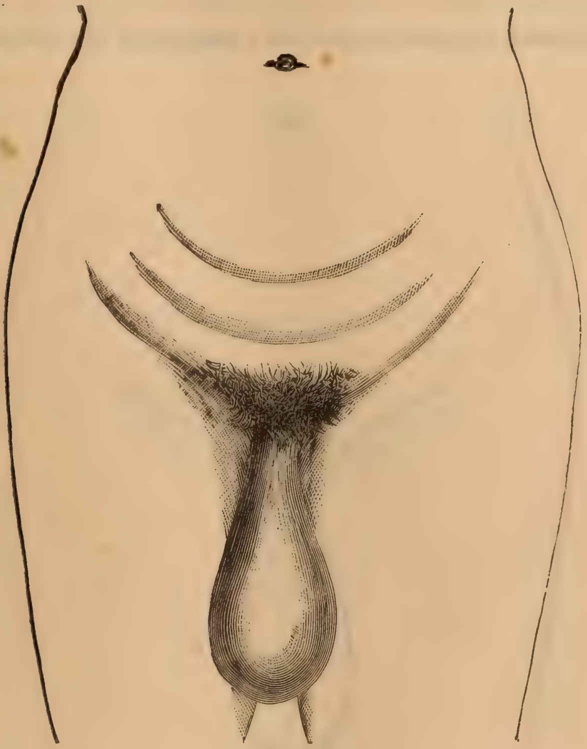

FIG. 1.

Taxis being practiced in the knee-chest position, the tumor disappeared with a very slight gurgle, its contents evidently retreating into the pelvis through an opening on the right side. Only once, in manipulating the mass, did a slight gurgling sound make itself manifest; resonance upon percussion did not appear distinctly, and yet there could be no doubt that hernia did exist. After the contents of the sac were returned to the abdomen it was evident that their retention there, or even the retention of the sac itself within the pelvis, would prove impossible by any mechanical contrivance which could be devised, for two reasons—first, the great weight of the mass; and, second, the fact that pressure of it against the bladder and rectum when it was returned to the body interfered so greatly with the functions of these viscera as to render the patient utterly uncomfortable.

And yet the deplorable condition of the patient and her great mental and bodily distress urgently called for active interference. She had consulted many medical men, had been discouraged from seeking surgical relief, while all lesser methods had failed to give her aid, and now both she and her husband were desperate and willing to adopt any plan which held out the least hope for them.

It was under these circumstances that I suggested the following operation:

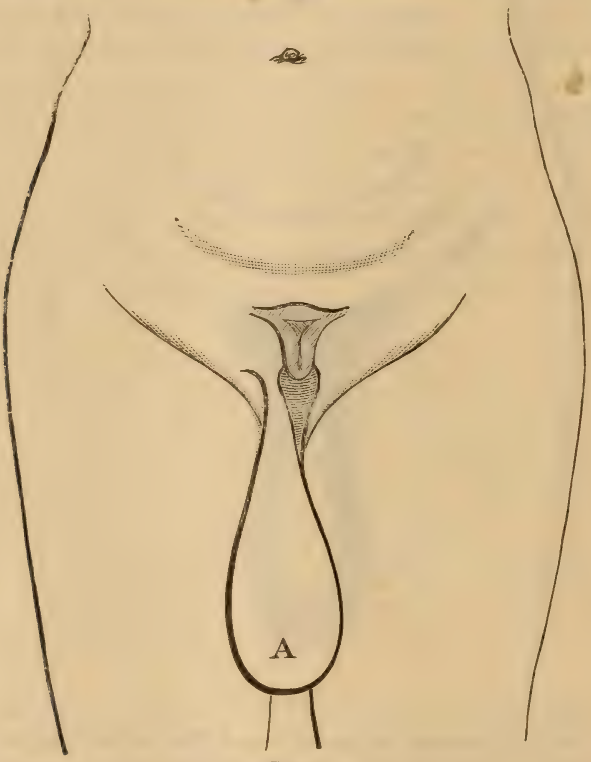

Fig. 2.

I proposed to perform laparotomy; cause an assistant to keep the hernial sac well within the pelvis by one hand in the vagina; pull all the contents out of the sac; seize this at its most dependent portion (A, Fig. 2), drag it up into the abdominal wound (Fig. 3), and fasten it there by suture, sustaining the heavy sac, meanwhile, by two knitting-needles passed through and lying flat across the abdomen (Fig. 4, p. 52).

As soon as this was explained to them they eagerly accepted the proposal, and the patient entered my service in the Woman's Hospital. There Dr. Emmet and Dr. Bozeman saw her with me, agreed in the diagnosis, and endorsed the operation proposed.

Upon cutting through the abdominal wall, after an assistant had, as I have stated he was to do, pushed the hernial mass back into the pelvis, I was surprised to find in the pelvis a soft, fibrous tumor, which had evidently been pushed up from below, on a level with the symphysis pubis. It was very movable, covered by peritoneum, disconnected with the uterus, and, upon careful examination, proved to have no connection with the bladder. I was entirely at a loss to determine its relations, but, in view of the desperate character of the case, decided at once to remove it. This I did by splitting the peritoneal covering, tying a number of bleeding vessels, draining the sac with a glass tube, and fastening the sac into the abdominal wound, as I have said that I proposed to do. The patient made a good recovery, and so far, more than a month having now passed since the operation, has continued to be free from any return of the hernia. I confess that I feel apprehensive about the future, but the present is quite gratifying and completely satisfactory.

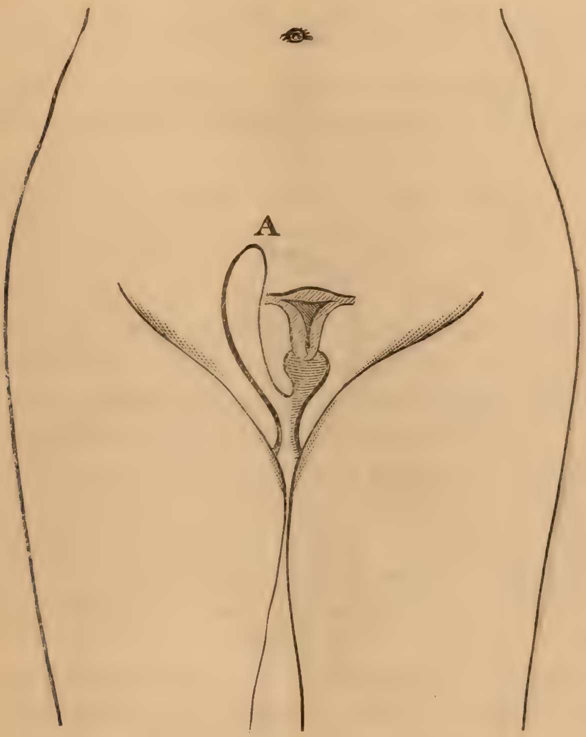

FIG. 3.

My explanation of the case is this: This very movable tumor, which appeared to have no fixed anchorage in the pelvis, had originally pushed the vagina before it by entering the pelvic cavity behind the broad ligament of the right side; the intestines had pressed down upon this, and together they had made up the contents of the sac.

And now the question suggests itself, What was the nature of this tumor?

Dr. Coe, the pathologist of the Woman's Hospital, has furnished me the following report of his examination of it:

" *Report on Specimen removed by Dr. Thomas at the Woman's Hospital, November* 12, 1885.

" *Gross Appearance.*—A soft shapeless mass of tissue, which bears a certain resemblance to an hypertrophied bladder.

" Weight, 10 ounces.

" Measurements, 22 x 15 ctm.

" Average thickness, 1.5–2 ctm.

" The growth is covered in some places by a layer of peritoneum, and over its exterior are numerous torn pieces of tissue, marking the sites of adhesions.

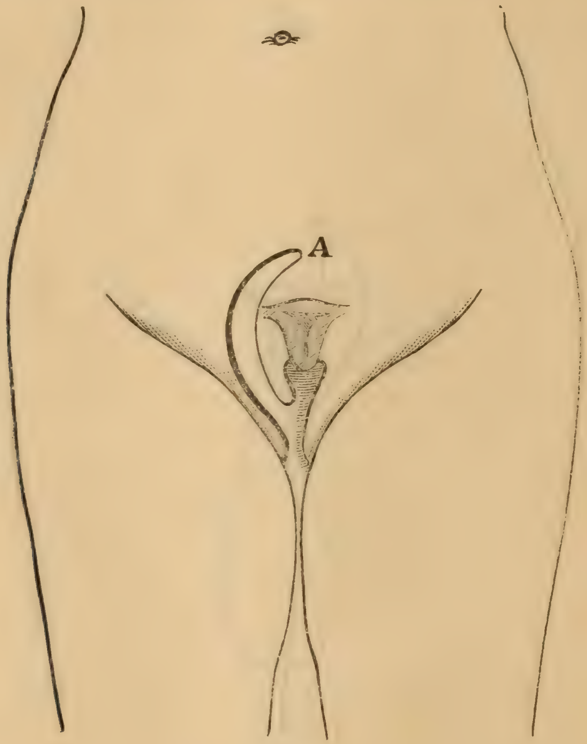

FIG. 4.

The vascular supply of the exterior of the mass is quite extensive, but its interior is bloodless and poor in vessels.

" On section, no signs of cyst-formation can be found; nothing but a softened, œdematous, fibrous tissue. This tissue is easily separated by the fingers so as to form pseudo-cavities, but no true, preformed cavity is present anywhere.

" The tissue varies in color at different points. On holding the mass up to the light, it is seen to be traversed by bundles, or trabeculæ, of reddish fibres (smooth muscle?), which offer a contrast to the general whitish ground of the tumor.

"*Microscopically*, (1) The growth consists of ordinary fibro-muscular tissue, similar to that of a uterine myo-fibroma. Vessels are few in number.

"(2) The fluid squeezed from the interstices of the tissue is colorless, and contains no cellular elements, except a few blood-corpuscles (lymph ?).

"(3) The tissue covering the exterior of the growth is a delicate membrane, strengthened by interlacing fibres of connective tissue, in the meshes of which are numerous large, epithelioid cells. Nerve-fibres and blood-vessels cross the field in all directions.

"*Inferences.*—(1) This is not an organ, *i. e.*, the bladder.

"(2) It is not an ovarian cyst.

"(3) It is not composed (at least to any great extent) of inflammatory tissue.

"What is it ? I submit two theories, both of which are merely theories—viz.:

"(1) The growth is a local hypertrophy of the pelvic connective tissue.

"(2) It is a sub-peritoneal uterine fibroid, which has become thoroughly œdematous.

"I incline to the former view for the following reasons:

"1. The situation of the mass at the time of operation, as described to me.

"2. The absence of a distinct pedicle.

"3. The absence of a complete peritoneal covering.

"4. The absence of any 'géodes,' or cavities, in the mass, such as are almost invariably found in a softened fibroid.

"Finally the *tout ensemble* of the tumor, which forbids the thought that it has ever been a firm, hard growth, such as a fibroid.

"*Origin of the Growth.*—The presence of adhesions, in which the mass was buried, the dilated condition of the blood-vessels in those adhesions, and the general œdema of the tissue, all point to some obstruction of the circulation in the tumor. It is not difficult to regard this phenomenal appearance as due to simply a localized œdema of the pelvic connective tissue."

(Signed) H. C. COE.

That this tumor had no connection whatever with the uterus or bladder I feel quite sure. My impression is that it belongs, as Dr. Coe's report intimates, to a somewhat rare class of tumor, arising from the pelvic areolar tissue or the round ligaments, of which quite a number have been recently reported by German pathologists.

Dr. McCosh has kindly looked up the subject for me, and I present some of his researches.

A. Martin, in his recent work upon the "Diseases of Women," says: "In the broad ligaments are to be found, also, solid tumors which are described as myoma or fibro-myoma. They are not connected with the uterus, but spread out between the epithelial layers of the ligamentum latum, and can from that point develop as large abdominal tumors, or may grow downward toward the vagina, and, finally, at the side of the vagina, bulge out as far as the vulva, where they present themselves for operation. In rare cases they have pushed through the great ischiadic foramen."

The same author also reports the case of a woman who complained of great weight and vaginal pressure. On examination he found a prolapsus of the anterior vaginal wall, and also of the posterior, Douglas's pouch being filled with a soft mass which seemed to arise on one side of the uterus. He performed laparotomy, and found the mass to consist of an œdematous fibro-myoma of the broad ligament.

Schmidt reports a case of a solid tumor attached by a pedicle to the broad ligament, which caused marked prolapse of the anterior vaginal wall.

Schröder acknowledges the existence "of connective-tissue tumors, of very soft consistence, which are saturated with fluid, and which arise in the pelvic connective tissue, and in this situation (subserous) continue to develop.

"Their anatomical relations correspond to subserous ovarian cysts," etc.

M. Hofmeier ("Gesellsch. f. Geb. und Gyn.," Berlin, October 24, 1885) reports a tumor of the size of the fist, situated between the anterior vaginal wall and the urethra, causing a decided prolapse, and projecting above the level of the vaginal wall to the size of an egg, the spot being somewhat ulcerated After division of the capsule, it was easily enucleated. Its attachment was deep in the connective tissue of the pelvis; and it belonged to the rare class of soft fibroid tumors of pelvic connective tissue.

It is highly probable that the tumor which I removed belonged to one of these curious and rare classes.

Unfortunatety, little can be said concerning the treatment of vaginal and vulvar herniæ, for the reason that there is but one variety, the pudendal, which eventuates from inguinal hernia, for which very much can be done. That variety is as amenable to treatment by the ordinary truss as inguinal hernia is. The other varieties can, to a limited degree, by relieved by pessaries, perineal pads, abdominal bandages, etc.; but we are poor in methods of decided relief, and utterly wanting in those of cure. It appears to me that the plan suggested, and partially carried out in the case which I have related, promises more than any other which has yet been brought forward; but of the validity of this surmise time and experience must give the proof. Certain I am that, if another case of large vaginal hernia presented itself, I should feel inclined to try laparotomy, dragging up the sac and fastening it in the abdominal wound.

B. Schmid says ("Handbuch f. Chir.," Billroth und Pitha) that attempts were made by Huguier at radical cure of vaginal hernia by an oval excision of part of the posterior vaginal wall and closure by suture, but without any lasting result. He must, indeed, be a sanguine surgeon who hopes for much from such procedures.—*N. Y. Med. Journal.*

REMARKS ON THE PATHOLOGY AND SUCCESSFUL TREATMENT OF LACERATIONS OF THE OS AND CERVIX UTERI WITHOUT SURGICAL TREATMENT. By BEDFORD BROWN, M.D., Alexandria, Va.

There are a large number of married females throughout our land who are suffering from the evil effects of lacerated cervix uteri in its various degrees, whose functions as wives, mothers, and members of society are, in great part, nullified by their infirmities, and whose happiness is, in great measure, destroyed by constant suffering. These cases are found in towns, villages, and country, and go unrelieved, and are permitted often to live a wretched existence because, from want of means and opportunity, they are unable to procure the services of a specialist, and undergo the usual surgical operation for the cure of this injury.

The results of the ingenious operation for lacerated cervix, so ably advised and carried out by Dr. Emmet, have doubtless been all that could be desired. But it fails, because of many and peculiar circumstances, to reach the vast majority of these sufferers, who, for the want of a more simple, more accessible, less dangerous, and less expensive method, which every general practitioner can take hold of, and apply in his every-day practice to his patients of this class in remote towns, villages, and country neighborhoods, must go unrelieved because unable or unwilling to submit to surgical treatment. It is only a very small proportion of practitioners who are either prepared or qualified to perform the operation of Emmet.

In regard to the general applicability of this operation to the treatment of lacerated cervix, there has been a signal revolution of late in professional opinion. Emmet himself, I believe, has modified his opinion in regard to the general applicability of the operation. Professor Parvin has recently expressed the opinion that the operation is unnecessary in a large majority of cases. In those cases of laceration accompanied with pelvic cellulitis, the operation is hazardous. When the accident first occurs, there are some patients who can undergo the operation of having the wound closed by suture, but not all. On the contrary, there is a large class of puerperal women whose lives would be endangered by the procedure, because of excessive timidity, tendency to prostration, to syncope, and to post-partum hemorrhage. What is to be done in these cases?

Since this question was first brought prominently before the professional mind, the adoption of some simple and efficient method for the treatment of these peculiar accidents which could be practiced by those who are unaccustomed to and inexperienced in the usual operative procedure, has been the occasion of much thought and investigation by myself.

I feel satisfied, after a somewhat extensive experience of ten or eleven years, that I have been successful in devising a plan by which this object can be accomplished easily, painlessly, efficiently, and without danger to the patient. Under this method of local treatment, I have never failed, in a reasonable period of time, in the most aggravated and complicated cases of laceration and fissure of the os and cervix uteri, to heal these injuries, and also, in a great measure, I have succeeded in inducing absorption of the resulting cicatrix, leaving a smooth and even surface in place of the former laceration. No contraction of the cervical canal has ever resulted from this treatment; but the patulous os has invariably returned to its natural calibre and normal form. That the healing process in these cases is rendered complete under this peculiar treatment, I have numerous and indubitable evidences. One of the most aggravated forms of this accident which has ever come under my observation, consisting of bilateral laceration with a great degree of hyperplasia, inflammation, and exuberant granulations, treated by this method about nine or ten years ago, has been in perfect health since that time, and has given birth to three large and healthy children subsequently.

Rational Signs of Laceration and Fissure of the Cervix Uteri.—Pain in some portion of the pelvic circle, in my experience, is an invariable accompaniment of laceration of the os. It is usually this discomfort which brings the patient to the physician. You may have inflammation, ulceration, engorgement, or hypertrophy without pain, but this lesion rarely ever. There is usually a pain seated in the sacrum, which is exceedingly annoying and constant in character, which patients describe as if an instrument was being gradually forced through that bone. This pain corresponds in locality to the utero-vaginal junction. The pain is always aggravated either by locomotion or sudden change of position.

Another variety of pain which is often induced, in these cases, by exertion, is referred to the vagina. Patients describe it as a sharp, lancinating pain, shooting up the vagina on assuming the erect position or on locomotion, as if an instrument was suddenly passed up the vagina. The pain is as suddenly relieved by the recumbent position.

Another characteristic pain, often accompanying these cases, exists in the form of severe neuralgia, extending down the nerves of the thigh and lower extremities, particularly on the side corresponding to the cervical laceration. I have seen this peculiar neuralgic affection present in the nerves of both lower limbs in double lateral lacerations, extending down below the knees.

These neuralgic phenomena are manifestly due to hyperæsthesia of the exposed extremities of the uterine nerves, which never heal at the point of laceration, and, of course, become the subjects of irritation from friction against the vagina from any change of position or locomotion, thereby inducing a reflex action on those nerves supplying the sacrum, hips, and lower extremities. In certain cases of laceration of the os uteri which came under my observation, the lancinating pain extended up the vagina and region of the bladder, and the sacralgia were so acute on assuming the upright position and attempting locomotion as to confine the patient permanently to bed until relieved by treatment.

Irregular sanguineous or muco-sanguineous discharges from the vagina, occurring at frequent periods between the menstrual, particularly during or after exertion, constitute a not uncommon symptom of laceration. In many of these cases this has been an annoying feature for years after the occurrence of the injury. The lacerated surface is usually covered with a growth of tender granulations, and sometimes profusely so, which pour forth blood from the slightest friction against the walls of the vagina during any exertion of the body.

Physical Signs.—In number, extent, and location of laceration, there may be found every variety, from a sweeping rent, extending through all the tissues of the cervix, down to the utero-vaginal junction, and even into it, to the merest fissure of the endometrium, not exceeding a line in depth, and it may be a few lines in length. *In extensive lacerations* there is presented through the speculum a gaping rent, it may be, a half inch or three-quarters in depth on one or both sides laterally of the os uteri, covered with red granulations, discharging purulent matter which presents the identical appearance of a deep corroding ulcer in which the cavity appears to have been caused by the destructive process of ulecration. But appearances here are deceptive. It is a rent which unaided nature seems incapable of healing, and the abortive processes of granulation and suppuration go on, from year to year, without ever accomplishing the object—the granulations always either being absorbed or dying from imperfect nutrition This is what the old investigators so often mistook for corroding ulceration.

In our present advanced knowledge of medical science, we cannot well mistake now the physical appearance of laceration when perfect. But fissure of the endometrium of the cervix, which is often but little less annoying, and which is an imperfect laceration, may, and often does, exist for years, and give rise to many evil consequences, as pain, leucorrhœa, menstrual irregularity, and sterility, without even being detected or understood.

There may be a single fissure on one side, or three or four presenting a stellated appearance around the mouth of the uterus. They may exist in the form of mere lines on the surface, extending down the cervical canal. A very common location of fissure is at the internal os. Of course, it cannot be seen in this locality unless the canal is displayed to view by a small intra-uterine speculum.

These fissures caused by laceration of the mucous membrane during labor ultimately give rise to much inflammation, engorgement, hypertrophy, and induration in the neighboring structures, causing an inequality and giving a distorted appearance of the os uteri. The os uteri on the side of the fissure will present an enlarged, swollen, hypertrophied condition, while the corresponding side may present a healthy appearance. Those who have much obstetrical experience are familiar with a comparatively mild form of fever which attacks the puerperal patient not unfrequently, and which usually gives rise to much anxiety on the part of both attendant and patient, but which, fortunately, usually runs its course in one or two weeks, and terminates in .recovery. This form of fever usually sets in with some chilliness on the third or fourth day of confinement, and presents many features in common with malarial fever, as morning remissions and evening exacerbations. The temperature usually does not exceed 102° or 103° in the evening and 100° in the morning. The appetite is always impaired. The tongue is coated. There may or may not be pain in the lower abdominal or inguinal regions. The lacteal secretion is always either diminished in quantity or suppressed. The lochial discharge is always diminished, and frequently suppressed.

These attacks are always well calculated to give rise to much anxiety, from the fact that we do not always know when they are to end. I believe them to be often confounded with malarial fever.

If the finger is inserted into the vagina, and made to sweep around the cervix uteri, impingeing upon the surrounding tissues as it moves, we will find a decidedly tender and indurated point at some portion of the circle. It may be very small, and limited to a very insignificant locality, or it may amount to a very extensive swelling. This is a limited pelvic cellulitis, caused by absorption of septic material through, it may be, a fissure in the endometrium, but a line in depth and two or three in length. However small and apparently insignificant the injury may be, it is sufficiently large to admit enough septic poison into the open veins and lymphatics to exert a destructive effect on the blood and tissues. Nature attempts to arrest the further absorption by developing inflammation, and by pouring out lymph abundantly, which is intended to act as a wall or barrier to its farther entrance, and finally expel it by the suppurative process. After a time the patient gets up and goes about, and is only partially capable of performing the duties of wife, mother, and citizen. If the laceration or fissure heals by natural means, the attendant cellulitis will probably subside. But if the fissure remains open, there will result a chronic cellulitis, a chronic leucorrhœa, interminable pains and discomforts, more or less hypertrophy of the cervix and body of the uterus. There will be subinvolution of the womb with menstrual derangement and irregularities, with hemorrhagic tendencies. Then follow uterine displacements, and adhesions to the neighboring organs.

The woman at this stage is said to have well-established uterine disease—all due to, it may be, a simple fissure of the endometrium, or slight laceration through the tissue of the os uteri, which has never healed. Thus we see how often life, health, and happiness are made to depend on the presence of a most insignificant cause. This is a typical example of the vast majority of cases of laceration and fissure of the os uteri, moderate consequent cellulitis, and finally the uterine disease which is seen at some future period to follow. But in exceptional cases of laceration, the consequences are of a much more grave character. There may be developed extensive cellulitis and peritonitis, with a very dangerous grade of fever, followed by abscess. These complications may exist in chronic form, as I have seen them for years, and give rise to infinite difficulty. The remote consequences of laceration and fissure to the contiguous tissues are in many respects not unlike that of an unhealed wound elsewhere. The constant presence of the decomposing debris and fetid discharge, when absorbed, act as poisons of a local kind on the structures, inducing inflammation, œdema, engorgement, and suppuration. We observe all these pathological changes as the result of the presence of laceration in the form of cellulitis, chronic peritonitis, œdema, and abscess. If the open chronic wound is healed by treatment, all the morbid consequences cease. It is identical in the case of the wound of the os uteri. When healed, all these dire consequences, which have presented the appearance of an interminable complication, at once vanish, and the case becomes simple in the extreme. Fissure in the tract of the cervical canal, in its relation to the functions and structure of the parts involved, and on its various nervous connections, bears a considerable analogy to that similar condition, fissure of the rectum. It rarely heals, except by treatment, and remains for years an open, pus-secreting wound, whose granulations are penetrated by sensitive branches of lacerated nerves, which, in a similar manner to the exposed nerve of a tooth that induces every nerve having a direct or indirect connection to sympathize, causes an extensive chain of nervous phenomena in the form of neuralgia in the nerves of the lumbar region, hips, and lower extremities, and even in more remote organs and parts of the body. The wear and tear of the nervous system may become so excessive from the constant presence of this irritating cause—the simple exposure of a few branches of a lacerated nerve—as to ultimately break down the general health. The unhealed laceration also becomes an open gate through which septic matter unceasingly finds its way into the circulation of the surrounding structures, and, acting as a feeder of those organic diseases in the contiguous tissues, maintains, in many instances for a lifetime, those chronic inflammations, cellulitis, peritonitis, inflammation of broad ligaments and Fallopian tubes, and finally suppurative action.

We know that the uterus of the child-bearing woman is infinitely more liable to disease than that of the virgin. This is doubtless due to the many injuries to which it is subjected in the process of labor. Thus, we perceive that it is not magnifying the importance of lacerations and fissures of the cervix to say that they are not only responsible for most acute diseases of the puerperal state, but that they also maintain a large proportion of the chronic diseases of the married female. A fissure or rent caused by labor, however small and insignificant, becomes a fixed centre for the radiation of morbid action, and rarely heals spontaneously. Fissures, when not visible to the eye, may usually be detected by means of a small intra-uterine speculum inserted in the cervical canal up to the internal os. In this way, when we see an inflamed, hypertrophied os of a patulous character, with catarrh, and secreting an abundance of sanguino-purulent matter, by expanding the orifice and exposing it to view we will not unfrequently find an internal fissure which has never healed.

Treatment.—Since the subject of lacerations of the os and cervix uteri have fairly been under consideration by the profession, most of the eminent gentlemen engaged in the treatment of female affections have expressed the opinion that these injuries were not remediable except by surgical operation. My own experience for the past ten years in the treatment of these cases teaches me differently. As in the case of other wounds, there are two methods of healing lacerations of the os uteri: One by the first intention; the other by the second intention.

If the laceration fails to heal primarily by first intention, it never heals by second intention spontaneously. Then, in its chronic state it must be made to heal by second intention only by means of local treatment, or by first intention through the agency of a new operation.

To induce healing of the lacerated or fissured cervix of long standing, two leading principles should be kept steadily in view and applied in practice. The first consists in the maintenance of an absolute system of cleanliness of the diseased parts by means of disinfection, for the chronic laceration is ever germinating septic material. The second is the stimulation of a new action in the vital functions of the part, and a new growth in the lacerated organs, by means which will not impair the vitality of the diseased surface, but which will rather increase and exalt healthy action, and also cause absorption of all morbid deposits, and thereby clear the way for a renovated nature to establish the process of healing.

It is my custom to apply in these cases solutions of crystals of nitrate of silver, graduated so as to adapt their strength to the condition and sensitiveness of the part, and in accordance with the progressive stages of improvement. Solution No. 1 contains:

℞. Argenti nitrat. (cryst.) - - ʒss
Aquæ destillat. - - - ℥j—M.

This solution is designed to be applied exclusively to the diseased canal of the cervix. Solution No. 2 contains:

℞. Argenti nitrat. (cryst.) - - ℈iiss
Aquæ destillat. - - - ℥j.—M.

This solution is only intended as an application to the external surface of the cervix and the lacerated portion, including the granulations.

There is another solution, No. 3, which I also use, but only after the mucous surface has been healed over, and there still remains a degree of induration and hyperplasia which may form a basis for future morbid action that ultimately might end in absorption of the cicatrix and re-opening of the wound. This solution, No. 3, contains:

℞. Argenti nitrat. (cryst.) - - - ʒj
Aquæ destillat. - - - - ℥j.—M.

It acts as a potent stimulant of the absorbent functions, and with time invariably reduces the hypertrophy and induration.

Solution No. 1 is to be applied to the interior of the cervical canal by means of a flexible silver or whalebone probe wrapped with absorbent cotton, down to the internal os, and beyond, if the fissure extends that far. Solution No. 2 is to be applied by means of a camel's-hair brush over the entire external surface of the os and cervix, including the granulating cavity of the laceration. These parts are all painted with this solution at each application, until they present the appearance of a thick, white coating, which covers them thoroughly and affords perfect protection to the inflamed surface and tender granulations for two or three days subsequently.

In some twenty cases of laceration and fissure treated by this method, I have not seen, as yet, a single instance of unfavorable results from the action of the silver used in this way, in the form either of contraction of the os or cervix, or induration of these parts. On the contrary, they have invariably been restored to their normal state.

The question arises here, In what manner can these local applications of nitrate of silver in solution bring about the closure of these open, gaping wounds, and cause them to heal with a firm cicatrix? The answer is a simple one. The remedy, when applied in this form, is one of the surest repressants of engorgements from vascular dilatation, and therefore one of the best means of correcting local inflammatory action—the opprobrium in these cases. At the same time, it does not act in the manner of a caustic as the solid nitrate does, but as an admirable stimulant to healthy action and growth of new and vigorous granulations, and as a protection against the constant injury which they are liable to suffer from friction against the walls of the vagina and its acrid secretions. Under the influence of these local applications, the progress of the new growth of healthy granulation can be observed at each visit, and the gradual closure of the wound. It is probable that the silver also acts through its impervious coating as a protection against the constant absorption of septic material from the decomposing discharges.

I have fairly tested all of the standard agents suitable for local application in these cases; for instance, Churchill's tincture of iodine, Battey's preparation of iodine and carbolic acid, pure carbolic acid, chromic acid, tannic acid, and glycerine and iodoform. I have also tested the solid nitrate of silver in the stick thoroughly, but it has acted totally differently from the salt in solution. It has invariably increased the pain and irritation and the tendency to hemorrhage. At the same time, it has not promoted the healing process. On the contrary, the solution acts as a soothing agent on the super-sensitive extremities of the nerves which are exposed, and by relieving pain and discomfort enables the patient to take gentle exercise. It has occurred on several occasions during the treatment of cases attended with excessive pain and sensitiveness that two or three applications gave so much relief and comfort as to enable patients to sit or stand who had been confined for weeks to the recumbent position.

As heretofore stated, a large proportion of cases of laceration of the os uteri are accompanied with more or less localized cellulitis and subinvolution. These complications afford no contra-indication whatever to this treatment. On the contrary, it has been my experience that in proportion to the progress made in healing the wound all complications disappear. Within two months after labor this method of treatment may be begun, not only with safety, but with a certainty of success. Indeed, the earliest period after two months have passed will give the best chances for the rapid healing of the wound.

In all cases of labor, after removal of the secundines, the os uteri should be subjected to examination by the touch. If a laceration is detected, antisepticism should be practiced assiduously to prevent the formation of septic matter and avert cellulitis or peritonitis. If localized cellulitis with fever, however slight, should occur during the puerperal state, when no laceration can be detected with the touch, then we may rest satisfied that a small fissure or rent exists in the cervical canal somewhere that has let in the poison which causes the damage. The rule in these cases is to practice antisepticism rigidly until the storm has passed over. Then two, or at most three, months after delivery, begin the specific treatment for healing the wound.

CASE I.—Mrs. D. I delivered this patient about twelve years since of her second child. The labor was easy, natural, and rather rapid. All things progressed favorably until the third day, when a violent pain was ushered in by a chill. There was pain and tenderness in the left hypogastric region, a partial suspension of the lochia, and imperfect secretion of milk. In about ten days the fever subsided, and the patient made a slow recovery. For a time there was apparently a fair restoration of health.

Rather more than twelve months after recovery, the lady consulted me relative to a pain, often severe, but constant, in the left ovarian region, and also what to all appearance was a very well marked case of sciatica of the left thigh, extending often down to the ankle. These pains were always aggravated by exercise, and were always perceptibly worse at the menstrual periods. The patient was constantly annoyed with a leucorrhœal discharge containing some blood. The ovarian pain and sciatica were treated by various general means without benefit. Astringent vaginal injections not only afforded no relief, but, most singularly, brought on a violent attack of sciatica. An examination by speculum disclosed a very much inflamed and hypertrophied os and cervix, with a laceration on the *left* side extending down three-fourths of an inch to the utero-vaginal junction. The surface was covered with granulations.

You will observe that the ovarian pain and sciatica were on the same side, and corresponded as to nervous and vascular arrangements. There was also localized chronic cellulitis about the left broad ligament. The sequel will prove that in this case sciatica and ovarian pain were clearly sympathetic on the part of the great sciatic nerve, and those distributed to the ovary, with the exposed and sensitive branches of the uterine nerves at the point of laceration. These are facts of value and interest. I had to deal here with a very aggravated form of laceration, accompanied with inflammation and hypertrophy of the cervix and chronic cellulitis. Any surgical procedure here was impracticable in the present state of the patient. I determined to make an effort to heal the extensive open wound by means of local treatment.

This was my first experience in treating lacerations of the os uteri by local means. Churchill's tincture of iodine, Battey's solution, tannin and glycerine, chromic acid and solid nitrate of silver applications were faithfully used, but without benefit. The application of the latter—the solid nitrate—aggravated all the symptoms, increasing the inflammation, hemorrhage, and pain. On both occasions, when used, severe attacks of the sciatica followed promptly.

I then began the application of the graduated solutions of the nitrate of silver, which I have continued to use in these cases. The first two or three applications afforded decided relief, and at the same time improved the condition of the cervix and lacerated surface.

During a treatment lasting about six weeks, the progress of the case towards recovery was steady and most satisfactory. At the end of that time the gaping wound had healed and closed perfectly. The cervix and os had been reduced to their normal dimensions and appearance. The pelvic cellulitis had entirely subsided, and the peculiar ovaralgia and sciatica had both disappeared.

It has now been about eleven years since the treatment of this case. From her recovery to the present time, there has been no return of uterine symptoms. Her menstrual health has been perfect. The presence of the extensive laceration in the case, which was undetected after labor, fully explained the attack of cellulitis and fever at the time. The applications were made in this case as in others of a similar character—about every five days.

Case II.—Mrs. C. The history of this case is an exceedingly interesting one. The patient came under my charge about ten years since. She had been delivered in a country village, after a very protracted and painful labor, by means of instruments. After a confinement to the bed of three weeks, she discovered that any attempt to assume either the sitting or standing position caused a most intolerable lancinating pain, extending up the vagina in the direction of the uterus. The patient also complained of a most annoying pain, of a boring character, through the base of the sacrum. About three months after delivery she was brought to our city, at the home of her husband, and placed under my charge.

She was still suffering from her original pains, and had, in addition, severe neuralgia, extending down in the direction of the crural nerves and their branches, frequently to the feet. The long and continuous suffering of the patient, and her unceasing confinement to the recumbent position, a helpless and miserable invalid, had served to break down the strength of both body and mind of a woman originally bright, cheerful, and interesting. Her condition of mind then was rapidly approaching the border lines of insanity. An examination by bivalve speculum revealed extensive bilateral lacerations on the right and left sides of the cervix, extending down three-fourths of an inch in depth, to the utero-vaginal junction. These surfaces were covered with red, pus-secreting granulations, which bled profusely on the slightest touch. The propagation of morbid action to the contiguous structures of the cervix had caused extensive inflammatory engorgement and hyperplasia of the parts. The cervix was consequently increased to double its natural dimensions. Such was the increase in weight of the cervix that the body of the uterus was dragged down to the ostium vaginæ.

As my patient manifested an unalterable opposition to all surgical procedure, I determined, as in the first case, to adopt the treatment by the application of the graduated solutions of nitrate of silver, hoping to obtain equally good results. Solution No. 1 was applied freely to the interior of the cervical canal, down to the internal os—the canal having been laid open by the laceration nearly to that point. At the same time, solution No. 2 was painted over the external surface of the cervix and the open cavity of the lacerations. To my surprise, the patient evinced only the slightest consciousness of pain. The applications were made thoroughly around the cervix and to the cul-de-sac, so as to make a coating over the whole, resembling a coat of paint. This coating of silver in this as in other cases acted as a protection to the tender and over-sensitive granulations and exposed branches of nerves, relieving the pain to such an extent that the patient could sit up after the first three or four applications. Under the semi-weekly applications of these solutions, the decline of inflammation and healing of the wounds made most satisfactory progress. At the end of two months, the process of healing was complete, the wounded surface had closed, a firm cicatrix on both sides had formed, and all inflammation had subsided.

There still existed some hypertrophy of the cervix, with induration. The application of solution No. 3 over the external cervix was now resorted to with the best effect in producing absorption of this enlargement, removing the cicatrix, and leaving an os and cervix uteri in a perfect condition.

In due time this patient became pregnant and was delivered of a large, healthy child without difficulty. Since that time she has borne two other healthy children. Three months after the last labor, for my own satisfaction, I was permitted to make an examination by speculum, and found the uterine organs in a perfectly healthy state.

This case affords conclusive evidence that laceration of the cervix of the most aggravated character can be treated successfully by local means.

Case III.—Mrs. P. This case furnished a perfect specimen of the stellated form of fissure of the os uteri, and illustrated in an admirable manner the peculiar effects of this kind of laceration.

About nine years since Mrs. P. gave birth to her first child. The labor was so rapid that the child was born before the arrival of the physician. She informed me that she suffered from fever for at least a week after labor, and that her recovery was slow. Two years after her confinement she came under my charge for, as she supposed, a hopelessly impaired condition of the general health and uterine disease. She was greatly emaciated, pale, and deeply jaundiced. She had persistent pain in the back, right side, hips, almost constant neuralgic affection of both crural nerves. The urine was scanty, high-colored, and indicated the presence of bile. There was tenderness in the right hypochondrium. All these indications pointed to a well-developed case of hepatitis. But I will show you that this liver affection was in reality a part of the extensive chain of sympathies caused by the uterine disease.

An examination disclosed four fissures on the anterior, posterior, and lateral portions of the os uteri through the mucous membrane, deep down in the structures, but not through the cervix. These fissures were stellated in form, and passed down the entire cervical canal, beyond the internal os. The cervix was enormously enlarged, and by its weight came down to the ostium vaginæ. The os was so patulous that the finger could be passed up the entire canal. The fissures presented the appearance of four deep grooves in the enormously swollen structures. There also existed, in connection with this, a very great degree of subinvolution.

This case was treated by means of the graduated solutions of nitrate of silver, Nos. 1 and 2, as in the former cases. From the commencement of treatment, there was a steady and progressive improvement in the local and general condition of the patient. The fissures first indicated a more healthy appearance, and then gradually healed and closed up. The inflammation and hypertrophy subsided in proportion. The subinvoluted womb was progressively reduced in dimension until an organ measuring about four inches was diminished to two and a half. During the treatment the general improvement kept pace with the local; the disordered liver was restored; the digestive and blood-making powers were re-established; the strength of body and mind returned; the patient was entirely relieved, and restored to vigorous health. I have delivered this lady of two strong and healthy infants since her recovery, without a single bad consequence. After the last birth, in proper time, an examination, held at my request, revealed a perfectly healthy and natural os uteri in both dimensions and appearance. Mrs P. has never had a return of her old symptoms since.

I present these cases as typical of many others treated by this method, and as evidence that laceration of the os uteri can be treated successfully by the intelligent general practitioner without the necessity of resorting to the very grave operation usually had recourse to in these cases.

There is a class of fissures of the mucous and submucous lining of the cervical canal, particularly at the os internum, resulting from labor, which may be termed *concealed*, from the fact that they are never seen. They are the source of various kinds of cervical disease, as cervicitis, catarrh, some degree of hypertrophy, and deranged menstruation. They are almost as difficult to heal spontaneously as fissures of the rectum. These concealed fissures of the os internum may be detected by the very easy manner in which the probe slips through that narrow passage, where there is usually some difficulty, and the very sudden, sharp, lancinating pain which the instrument causes just at that point. The pain is peculiar, and evidently due to the contact of the probe with the branches of exposed nerves in the fissures which have not healed over. Patients have informed me that this pain resembles alone that which arises from the contact of a probe with the exposed nerve of a decayed tooth. It not unfrequently gives rise to nausea, faintness, and vomiting. The No. 1 solution, when applied on the probe through the internal os, reaches these wounds thoroughly, and will cause them to heal rapidly and permanently from the bottom of the rent.—*Transactions of the Medical Society of Virginia*, 1885.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

THE CAUSE OF ELEVATED TEMPERATURE.—In an article in the *New Orleans Medical and Surgical Journal*, Dr. Jno. B. Elliott, Professor of Theory and Practice of Medicine, Tulane University of Louisiana, says:

From the nature of the force-change involved when chemical energy transforms to tissue-building force, we are entitled to regard it as the most important of all the physiological processes of the body. In it energy becomes constructive, while in all other processes it is destructive. Its control and regulation must therefore be considered the highest function of the automatic centres.

It remains further to insist, in this connection, upon the strict quantitative relation existing between chemical energy which undergoes transformation in the body and the modes of force into which it is changed. This may be illustrated numerically by the following: Suppose an amount of chemical energy, represented by the number 12, to undergo transformation into work, heat, and tissue-building force; then the value of the work, heat and tissue-building force, in their sum, can never vary from twelve.

Furthermore, if we suppose in this case that the amount of energy expended in automatic muscular work=3; the amount contributed to normal body heat =3; and the amount devoted to tissue-building=6, then any change in the quantity of one of these forms must compel answering changes in the others. As the work (=3) is usually a fixed quantity, we may neglect it for our present purpose and confine our attention to the other two. Let us suppose, then, that the transformation of chemical energy into the highest form (tissue-building force) falls, through failure of the nervous system, from 6 to 4, then from the law of the conservation of energy the value of the lowest (heat) must rise from 3 to 5; for tissue-building is a vital constructive process sustained by nerve energy, and can cease immediately if that supporting power be withdrawn, while combustion is a chemical process and will not cease until the matter at its disposal shall be consumed. Anything, therefore, that arrests tissue-building must elevate temperature; or, anything that prevents chemical energy from passing into its highest transformation, tissue-building force, compels it to appear in its lowest form, heat.

In considering thus the mode of disintegration of the cell with which we began, we have practically reached an explanation of fever-heat. Yet before explicitly stating the theory we will better prepare for it by glancing at the mode of growth of our cell.

Every cell is in an area of nervous influence. As the development of each cell begins from its parent cell, it too is born into and grows within the same influence. From the pabulum which comes to it food is selected through this influence both in kind and quantity, and of the chemical force which is being transformed about it this nervous control determines the amount which it is to appropriate, and the form it shall assume. Its whole life-history is but an unbroken play of forces as they build up the matter of its form under the control of nervous influence. The most important fact in its history is the lifting up of pabulum into the substance of its tissue molecules. As long as its healthy growth continues, the transformation of chemical energy into normal heat, and into tissue-building force, goes on under the even control of the nervous system. But let some disaster befall the controlling centres, and the tissue-building receives a check. The energy it was absorbing fails to reach its higher destination and appears as additional heat.

The remoter effect of this loss of nervous force, and the direct effect of the additional heat thus liberated, need some attention. The same nervous energy which sustains the development of a growing cell sustains also the integrity of the maturer cells about it. These perfected cells are in a state of unstable equilibrium. In almost equal balance, destructive forces and constructive forces are playing about them. In the natural order of events they are destined after their brief life is run to fall to pieces and go into disintegration as the last link in their functioning lives. But the nerve energy which supports them through this period is the only power which insures them their natural term of life. Take away this support and death and disintegration begin before their time.

Thus, more results from the loss of nerve power than the simple checking of tissue-building. Arrested growth in developing cells means also premature death and more rapid disintegration in the mature cells. This last accident is likewise hastened by the increased heat which results when tissue-building ceases. Sensitive as are all delicate tissues to elevation of temperature, they become far more so when the nerve power which sustains them is withdrawn. Their death and disintegration is thus doubly hastened by the same nerve failure which checks tissue-building.

In what has been already said, our theory of elevated temperature has already found expression. It only remains to sum up the propositions discussed, and from them to formulate our theory. These propositions are:

1st. Fever is not the expression of a disturbing agent, but of a thing disturbed.

2d. This "thing disturbed" is the nervous centre (or centres) controlling the distribution of the chemical energy within the human body.

3d. This chemical energy within the body is distributed into the forms of heat, automatic work, and tissue-building force, of which heat is the lowest, and tissue-building force (since it is constructive) the highest form.

4th. Depression of the centre controlling these transformations causes it to fail in its highest function, tissue-building.

5th. As combustion goes on though tissue-building ceases, the energy which was destined for tissue-building force has now to appear as the lower form heat.

6th. The same nerve failure which arrests tissue construction and gives rise to heat favors also the breaking down of the tissue already formed, this latter process being likewise hastened by the elevated temperature.

From these our definition may be drawn as follows:

Fever results from a depression of that nervous centre which controls the distribution of energy within the body, on account of which depression tissue-building ceases, and the energy destined to perform that act passes off into the lower form of heat. From this same failure of nerve power, and from the heat resulting, tissue-destruction in the body is usually increased.

DYSPEPSIA, WITH NEURASTHENIA AND SOMNOLENCE.—A paper on this subject by Dr. M. L. James, Professor of Practice of Medicine, Medical College of Virginia, is published in the transactions of the Medical Society of Virginia, for 1885. In it he says: Neurasthenia and dyspepsia often depend to a greater or less extent on each other, and when established react injuriously upon each other. Most cases of indigestion occasion more or less depression of the nervous system, while on the other hand the existence of neurasthenia intensifies the dyspepsia. Every intelligent observer who is dyspeptic himself becomes aware of the aggravation of his indigestion as a result of protracting and exhausting demands upon his nervous forces in any form, and if suffering from neurasthenia realizes that his nervous depression is most marked during the process of digestion and is proportioned to the difficulty of it.

A prime consideration should be to supply the digestive functions with the most perfect force of innervation which may be practicable. While digestion is a chemical process, and can be obtained in the retorts of the laboratory, experiments as well as every-day observation establish the fact that in the human organism it is also intensely vital, and that in its efficient performance the nervous forces contribute much. Excessive fatigue, undue loss of sleep, intense mental effort, and whatever else may severely tax the powers of the nervous system, not only produce neurasthenia but aggravate indigestion.

One of the conditions requisite to secure effective digestion is a due vigor of tone in the nervous system, as a result of a *full amount of natural sleep*; and in cases suffering from this unfortunate association, nothing which can be avoided should be allowed to interfere with such refreshment. The time of sleep, the apartment, the temperature, and other circumstances, should be made favorable, so that sleep may be profound and the refreshment complete. After such sleep the patient is much better prepared for the digestion of the morning's meal.

The selection of the articles of food for breakfast and dinner, especially, should be made to secure at the same time the easiest digestion and the most perfect nutrition, and should be limited to such amounts as are susceptible of a complete and early reduction, and while all the elements of nutrition should be supplied a special care should be taken to furnish foods containing an adequate amount of the phosphates. The *phosphates of food* will be found ordinarily the best form of administering the phosphates.

After a meal, gentle exercise, such as quiet walking, but better, carriage and horseback exercise, and pleasant occupation, usually such as is found in social intercourse, should be employed—avoiding any active intellectual or physical effort, until the digestive process is at least well advanced, and, in cases where the trouble is serious, almost completed.

In cases where the neurasthenia is marked, and the difficulties of digestion are considerable, I earnestly recommend before dinner a period of repose extending from half an hour to two hours in the recumbent position, as may be required by the severity of the case. It will be better if the patient were to sleep, and the habit of sleep at that time may be easily acquired. The advantages of this practice will become manifest wherever it is tried. Besides the peculiar refreshment of sleep, the brain and nerve tissues secure increased nutrition from the additional afflux of blood in recumbency. I have seen so much of benefit from this system of *pre-prandial* repose, if I may be allowed to coin a word, that I repeat the statement by way of emphasis. Its benefits are so decided, when associated with proper remedial measures, it may in a comparatively short time often be dispensed with.

Supper should not be taken before the complete digestion of dinner, with a period of rest, which usually requires six hours. If the digestion has been complete, a moderate and simple supper contributes to the needed nutrition, and promotes sleep. It should consist of articles more easy of digestion than those allowed at either of the preceding meals, and at the same time should be moderately nutritious. Those beverages which with so many persons interfere with sleep, such as tea and coffee, should he abstained from in any amounts whatever. They tend to promote wakefulness, and their stimulating properties are liable to be followed by the inevitable sequel of stimulants—depression. Ordinarily, unless the patient is going to be up to a very late hour of night (which should be avoided if practicable), meats ought not to be used, and the supper had better consist of such simple articles as butter and a little stale bread and a little rich milk or cream. A few raw oysters come in also suitably.

As to the mere purpose of averting these seasons of depression and somnolence which are liable to occur after a meal, for a single occasion or two the use of caffeine, in doses of from three to six grains, according to the susceptibility of the patient, with a properly regulated selection of food, is sufficient. But caffeine is too purely a stimulant to afford the best medication and secure permanent relief. Its frequent use, as in the use of other stimulants, increases the depression. The use of coffee, especially when taken hot at the beginning of the meal, to some extent answers the same purpose. It operates in three ways: (1) The heat of the coffee stimulates the functions of digestion; (2) The use of coffee, with some simple food, as bread and butter, takes off the keen edge of appetite, so that the patient is much less likely to eat excessively of atricles more difficult of digestion; and (3) The caffeine which it contains enables the patient temporarily to resist the tendency to sleep. It should be remembered, however, that the tannic acid of tea and coffee, when taken strong, tends to precipitate the pepsin of the gastric juice, and hence, when taken with albuminous substances, impairs the process of digestion with that class of foods. But all purely stimulating remedies are only adapted to particular occasions. They do not tend to cure this unfortunate association. They aggravate it.

Connected with the proper selection of diet, the medicines should consist of such agents as will stimulate digestion and give more permanent tone to the nervous system. Here pepsin or other digestive ferments should be employed to promote the solution of albuminous foods. Besides these agents, others should be used which will promote digestion, and with it nutrition, thus giving permanent tone to the nervous system rather than temporary stimulation. The nutrition of the nervous tissue may receive an additional contribution in a suitable selection of the phosphates, phosphites, and hypophosphites. Tonic doses of quinine also have a happy effect in imparting stimulation to the digestive organs and in preventing or retarding fermentation. Strychnia, also, given in tonic doses, say from a sixtieth to a forty-eighth part of a grain, has the same effect, and with some patients has a tendency positively exhilarating. Caffeine, given in minuter doses, say from one to two grains, forms a useful association with these remedies, and in cases where there is a painful condition of the digestive organs cocoaine comes in as an admirable adjuvant to the remedies already mentioned. Alcoholic stimulation, if judiciously used, sometimes has a good effect; but there is a *fearful liability to excessive and perpetuated indulgence.* If prescribed, it must be kept strictly within the stimulating bounds, and not carried to the point where it exerts its sedative effects. So great is the liability to a perpetuated and excessive use of alcoholic drinks, when continued for a considerable time, especially with the warrant of a physician's authority, that when thought desirable I recommend that it be prescribed in such forms, or in such combinations, that the patient will not detect it—at least as a beverage ordinarily in use. For this reason I usually direct in my prescriptions *alcohol*, and indicate it to the druggist by the chemical name, *hydrate of ethyl*, latinized. The following formula I have found an eligible form of administering these several remedies together:

℞.	Quinine phosphat, - - - -	gr. xxxij.
	Strychniæ phosphat, - - - -	gr. ⅓ rd.
	Acidi phosphoric. (50 per cent.). - -	min. xl.
	Caffein. citrat, - - - -	gr. xxxij.
	Aquæ puræ, - - - - -	f.ʒxiv.
	Glycerinæ puræ, - - - -	
	Spts. vini rectif., - - - āā	f.℥j.
	Tr. cardamomi co., - - - -	f.ʒij.

Misce secundum artem.

S.—One, two, or three teaspoonfuls as a dose, according to the susceptibility of the patient.

With Intolerant Stomachs.—The paper thus far has referred to such cases as tolerate foods ordinarily in use. But cases present themselves where such foods cannot be either tolerated by the stomach or digested, and hence provision must be made for them. In such cases, judiciously selected preparations of beef, rich in phosphates, that require no effort at digestion, or foods pre-digested by the digestive ferments—say beef or milk peptonized by pancreatine, or starchy compounds dissolved by substances containing diastase—should be employed. Such measures should be continued until the stomach has sufficiently recovered its integrity to take foods more commonly in use. Along with the use of foods the phosphates and phosphites and other tonics may be additionally supplied, remembering still, however, that the phosphates may be largely supplied in well-selected foods. There are still other cases in which the amount of trouble at the stomach will be such that little or no nutrition can be supplied through that organ. In such cases we will be compelled to resort to *rectal alimentation ;* and in doing so we must remember that the rectum has at least exceedingly little digestive capacity, but for such ends is only fitted for absorption, and hence we must use only such foods as are in complete solution ; such, for instance, as the meat-teas, or better, the pre-digested foods already referred to. And it should also be remembered that the rectum is incapable of tolerating any considerable volume, and hence the quantities introduced ordinarily should be limited to from one to three ounces at a time, very slowly introduced.

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ABSTRACTS.

THE TREATMENT OF PERTUSSIS (Dr. Wallace B. Croskery in the *Lancet*). Whooping-cough has many specifics. Belladonna I have been disappointed in, but have never pushed it to very large doses, though I have pressed it to moderately large ones, as it is difficult in private practice to see the patient sufficiently often to watch that the physiological effect of the drug has not been exceeded. I have settled down for the most part into the treatment of uncomplicated cases with nitric acid and bromide of ammonium, combined with bark, and probably ipecacuanha or squills, with the external application of a stimulating liniment to the chest, back, and spine. In the condition I have described, exclusive specific treatment is for the most part disappointing. In its early stages, carbonate of ammonia, combined with a diminished dose of bromide, is of service with tolu and senega ; the dose of the bromide should be a diminished one, as some authorities on the subject have pointed out, as, if given in the larger doses in this complication of the disease, the tendency to drowsiness is increased. Possibly with this treatment we may remove the bronchitis and return to the direct specific treatment. Frequently, however, notwithstanding the stimulating expectorant, the respiration becomes quicker ; the secretion from the bronchial tubes, though dislodged in considerable quantity, seems to be secreted in increased amount, and accumulates in the tubes. I wish to direct attention to the treatment I have found most serviceable in such cases. I give two mixtures, each every six hours, and one within three hours of the other : the first containing oil of turpentine, spirit of ether, and tolu ; the second containing a large dose of dilute nitric acid, a small dose of bromide of ammonium, with senega and bark. I find this treatment most efficacious; the turpentine dislodges the secretion and acts as a stimulant, the ether relieves the spasm and also stimulates, and the nitric acid comes into play as a specific. More reliance, I believe, is to be placed upon the nitric acid than the bromide for diminishing the number and duration of the paroxysms, but I have not found it useful when bronchitis is present, unless in a considerable dose. For a child of five years I give up to ten minims of the dilute acid for a dose. I have not found any untoward result from this or from the turpentine, which I give in about five-minim doses for a child of the same age. As auxiliary treatment, I keep the chest and back wrapped up in cotton-wool, and order to be rubbed in two or three times a day a combination of compound camphor and soap liniment. It is wonderful how a child's skin gets accustomed to its use, and a child of five years will tolerate an application containing one-third and sometimes one-half of the compound camphor liniment without flinching, or without vesication, or even much erythema resulting. Such foods should be given as are quickly assimilated, and should be administered as soon as a paroxysm is over. Stimulants are of immense service given with discretion in the presence of the drowsiness, as there is much exhaustion from the frequency of the paroxysms, the long duration of the disease, and frequently the starvation, so little food being allowed to remain in some cases in the stomach. When improvement has taken place cod-liver oil is of great service, also quinine and iron, either separately or combined, followed up by the usual change of air.

CASE OF CÆSAREAN SECTION AFTER DEATH OF MOTHER—LIVING CHILD REMOVED (Dr, J. Mack Hays, in the *North Columbia Medical Journal*). —A short while after 8 o'clock on the evening of the 3d instant (October) I was hastily summoned to the wife of Mr. C., living seven miles distant. On reaching the house I was informed that the patient was too far gone for me to do her any good. She was evidently suffering from an extensive cerebral apoplexy, presenting the following symptoms: complete motor and sensory paralysis of her left side of face and right side of body, both pupils widely dilated and totally insensible to a bright light; very slow, stertorous breathing and "drawing in of the paralyzed cheek with inspiration and its puffing out with a sort of explosion in expiration;" pulse rapid and barely perceptible; face pallid. A sharp pinch on the non-paralyzed arm produced no evidence of sensation, nor did the hypodermics of whiskey which I administered as a forlorn hope. The patient was rapidly approaching her end, and was eight and one-half months advanced in pregnancy. I satisfied myself from the husband that the child was probably alive, as he had heard his wife speak of having felt motion the same day. I then laid the case clearly before the husband, telling him that while one life was fast passing away, another was at stake which might be saved even after the mother had breathed her last. He told me to do as I thought best. Accordingly I made the necessary preparations, and, after all evidences of life had disappeared in the mother, and the bystanders sent out of the room, I proceeded without delay with the operation. With one stroke of my scalpel I incised the skin and subcutaneous tissues from the umbilicus nearly to the symphysis pubis; two incisions more, through the linea alba and peritoneum, exposed the uterus to full view; through it I next made an opening as low down as possible and of sufficient size to admit two fingers, at the same time liberating the liquor amnii. Using my fingers as a director I slit up the uterus to the placenta, which I easily detached. The body of the child was now fully exposed lying in the second cranial position. I lifted it from the uterus, and by exerting some little force to overcome the suction brought to bear upon the head, removed a living male child from its dead mother. The cord was tied and cut as usual. The operation was attended with a very slight loss of blood, and that of a dark venous character. The unusual shape of the child's head, born without any pressure having been exerted upon it, was quite noticeable. The child is being fed on fresh cow's milk, diluted and sweetened, and at the present writing, October 15th, stands a fair chance of being raised. It makes the fourteenth child born of Mrs. C., all of whom are living.

CONGENITAL ABSENCE OF EXTERNAL AUDITORY MEATUS, THE RESULT OF MATERNAL IMPRESSIONS (Dr. J. R. Briggs, M.D., in the Texas *Courier Record of Medicine*). Through the kindness of Drs. York and Carpenter, of Decatur, Texas, there was brought to me a boy about ten years old, who had complete atresia of the external meatus auditorus. The following is a history of the case: The boy had enjoyed remarkable good health all his life, having had no eczema, or other skin troubles that could possibly have produced such a result during infancy. I learned from the parents that the mother, when pregnant about two months, received a severe fright in the following manner: She went to the barn where some dogs were tearing the ears off a hog, which made a very decided impression on her mind at the time, this impression lasting her during the whole of her pregnancy. At the birth of the child it was found that there was a general malformation of the whole external ear, the cartilage being absent in the whole of the auricle with no signs of an external meatus. The whole external ear presented a ragged and torn appearance, both auricles being drawn forward by a strong band of integument. The boy, although apparently intelligent, has a remarkably peculiar countenance, his general facial conformation being strikingly at variance to that of normal conditions, his eyes, however, being most peculiar, presenting as they do a great similarity to that of a hog, the fissure being obliquely cut instead of vertical. The most remarkable feature of this is that the boy hears very well, being able, as he is, to hear the tick of a watch on contact, and the human voice in a slightly elevated tone. The mother declares that the torn condition of the hog's ears at the time were identical with that now present in her son, both ears being exactly alike in every respect. A careful digital examination revealed the bony meatus, but it seems to the sense of touch to be at least partially filled up with soft tissue. The sense of hearing in this case is solely through the bones of the head and mouth, keeping as he does his mouth open when listening attentively. Outside of the acuity of the hearing power, this case is no more remarkable, either in its history or causation, than many cases often seen by the physician. It seems plausible that the capacity to hear is the result of a vicarious condition, other nerves assuming the function ascribed to the auditory, thereby enabling him to hear at all. An operation was asked for and decided upon, but owing to the interesting and curious features of the case is purposely deferred in order to study the case more carefully and make some interesting tests. I regard our psychical nature as much a real substantial entity as I do our physical organs, and can therefore readily perceive how the psychical impress of the mother can break the physiological development of the fœtus in utero. There is nothing extraordinary in the maternal impress upon the fœtus, when we consider that mental shock has been known to produce serious and lasting results, and even in cases instantaneous death. Now the mother in this case was not prepared or forewarned of any such spectacle as she unexpectedly met. I have personally seen and made inquiries in many such cases, but only give this one, believing that such congenital freaks can be as readily explained as hereditary predisposition.

HEPATIC ABSCESS—Dr. E. J. Beall (in the Texas *Courier Record of Medicine*) has been led to the following conclusions from three successful cases of hepatic abscess recently seen in consultation.

1st. That the openings into the pus cavity shall be made free, and at the point that close physical examination shall indicate that nature is essaying to approach the surface.

2d. That drainage tubes shall be used from beginning to end, shortened as thought advisable during the progress of the case.

3d. That strict antisepsis within the pus cavity as well as at the external opening of the tube be rigidly enforced.

4th. That antiseptics shall be varied daily, being careful to avoid toxic results from bichloride and carbolic acid solutions, these to be attenuated well and only occasionally to be used.

5th. That the aspirator should be relied upon only in small abscesses, and when there is fair strength of constitution that will bear repetition if needed, or subsequent resort to incision.

6th. Coupled with the above surgical treatment, such constructive and supporting therapeutic and dietetic measures are to be adopted as shall be suggested to the physician in charge of each individual case.

CATHETERISM ALMOST PAINLESS.—Dr. John A. Stamps recommends (*Medical and Surgical Reporter*) the following as an almost painless method of catheterizing an hyperæsthetic urethra. Inject through the catheter, as it is being introduced, water as warm as the patient can bear. The water regurgitates between the catheter and the urethral wall, and the warmth of the water will, in many instances, serve to allay all urethral irritability.

A NEW METHOD OF REDUCING DISLOCATIONS OF THE HIP (Dr. J. S. Allen, in the *Annals of Surgery*).—An anæsthetic having been administered to the extent of producing complete muscular relaxation, the surgeon stands over the recumbent patient, flexes the leg upon the thigh, and the thigh to a right angle with the body, brings the patient's foot between his legs so that the dorsum of the foot rests upon the operator's nates; and then the surgeon, passing his right arm beneath the flexed knee, lifts the hips of the patient well from the bed or floor, and holds them thus suspended for a short time, when the head of the femur will quickly be drawn back into its socket. The weight of the hips and opposite leg rotates the body outwards, producing just sufficient abduction and extension to draw the head of the femur quietly through the slit in the capular ligament, and direct it into the acetabulum.

MICROSCOPY AND PATHOLOGY.

[As announced in the December number of the JOURNAL, it was expected that this new department would be inaugurated by an original paper by Dr. H. M. Biggs, Instructor in the Carnegie Laboratory, New York ; but before the article was completed Dr. Biggs was unexpectedly called upon to go to Europe, under the auspices of the Laboratory, for the purpose of making observations upon Pasteur's process of inoculation against hydrophobia, and also to obtain from Koch, in Berlin, the results of his most recent researches in bacteriology.—ED.]

DISTRIBUTION OF BACILLUS ANTHRACIS IN HUMAN SKIN.—At a recent meeting of the Royal Medical and Chirugical Society reported in the *Lancet*, Mr. Arthur E. J. Barker read a paper on the distribution of bacillus anthracis in the human skin in malignant pustule. The basis of the observations was a case in which incision on the tenth day after the appearance of the first pustule was followed by rapid and complete recovery. The case was that of a healthy young man, a brush-maker, who noticed a small pustule on his neck on May 28, 1884, which he squeezed with his nails. The pustule became very sore and increased rapidly in size, while at the same time the patient began to feel very ill, with insomnia, thirst, malaise, pains in the bones, and, later on, rigors, anorexia, and headache. When seen on June 7 he was found to be suffering from a large so-called malignant pustule on the left side of the neck. This consisted of a central dark-brown eschar surrounded by a zone of flattened pustules, and outside these a hyperæmic zone ; beyond the latter the whole side of the neck was œdematous, with an intensity of hardness rarely seen. The treatment consisted in excision of a portion of skin, about 3½ in. by 2½ in., including the whole area of vesiculation and a margin outside this of about half an inch broad. The base of the wound was cauterized freely with the actual cautery, dressed with iodoform, and covered with iodoform wool. The recovery was rapid and complete. The distribution of the bacilli in the skin about the centre of inoculation was then discussed, the main conclusion arrived at regarding this point being that the organisms display a remarkable predisposition for the most superficial parts of the dermis, and only penetrate into the deeper parts very slowly and in relatively small numbers. Enormous colonies were found spreading over the surface of the papillæ, causing vesiculation of the epidermis ; while in the bodies of the papillæ and in the deeper parts of the cutis only a few scattered bacilli were found ; none could be detected in the vessels of the skin anywhere ; under the eschar the active growth of the organisms appeared to have been arrested. That the disease remained essentially local for a considerable time appeared to be a justifiable opinion from these observations ; while the history of the case, together with the result of operation, points to the same conclusion.

Mr. Davies Colley considered, from his experience, that the disease was on the increase. He was disposed to think that Mr. Barker exaggerated the local character of the disease. In his (Mr. Colley's) experience the system was rapidly infected. In some cases the bacilli were detected in the various secretions of the body, and this not long after the development of the local disease ; so that even in cases that were cured by excision, he was led to believe that the system was infected. It was probable that the primary colony was a much more powerful growth than the secondary colonies, which the vitality of the body was able successfully to cope with. It was strange that cases of internal visceral disease were not more frequently heard of; the only one he was aware of was one related by Mr. Poland, in which the symptoms resembled somewhat those of typhoid fever.

Dr. F. C. Turner said that there was a remarkable localization of the bacilli to the surface of the skin. A line could be distinguished across the section ; above the line the bacilli were numerous, and the tissues were in a state of necrosis ; below the line the tissues still showed signs of life, and the bacilli were but few in number.

In reply to Mr. Barker, Mr. Davies Colley said that the only case in which the bacilli were detected in the various secretions recovered.

THE MICROCOCCUS OF DENGUE.—The recent epidemic of dengue has not been, it is hoped, without its lessons. While it cannot be claimed positively that anything of practical value has been learned as to the etiology or prophylaxis of this disease, enough has been ascertained regarding its pathology and clinical history to lead to the belief that it is a disease of the blood produced by an organism, a *contagium vivum*, and that it is both contagious and infectious.

Dr. J. W. McLaughlin, President of the Texas Microscopic Association, instituted a series of examinations of the blood and the urine of dengue patients taken in every stage of the disease. The blood was extracted by a sterilized hypodermic needle with every precaution against atmospheric contamination, and was placed on sterilized discs. These he dried, and treated, some with glacial acetic acid, and some with *liquor potassæ*, and stained, some with analine, and some by the new method of Gram of Copenhagen. Upon examination, Dr. M. found myriads of *organisms* unlike any that have ever been seen or described heretofore in any fever, so far as he has been able to ascertain, and the doctor thinks he has good reason believing them to be the *true germs* of dengue. It is well known that by the methods of staining employed nothing retains the dye but an organism, while none of the tissues or elements of the body can withstand the acetic acid or the caustic potash, which, however, have no destructive effect on these singular organized atoms. Under the microscope large numbers of them are seen. They are exceedingly small circular or oval bodies of a reddish hue, encased in a darker outline, and are about the twentieth to the thirtieth of the size of an ordinary red blood corpuscle, i. e., a blood corpuscle is capable of containing fifteen to thirty of them. And here is another singular fact ; they are seen occupying the red blood cells in numbers, something not before observed, according to Friedlander, who avers that in no disease and in no condition of life have *micrococci* or other organisms been known to enter and occupy the blood cell. Dr. M. finds the *micrococci* also in groups, technically called *zooglœa*, and in garlands, and, in the urine, formed into distinct tube casts.

It is proper to state that these same bodies were found abundantly in the atmosphere also, and the doubt which attaches to all such investigations arises here as to whether they are the cause or one of the products of the disease. The Doctor has isolated what he believes to be the true dengue germ, and has succeeded in reproducing them in Miguel's culture of Irish moss and beef broth. He will attenuate these and try the effects of inoculation.

Who knows but what a Texas physician may have placed within the grasp of science the preventive of this dread disease, which, while non-fatal, is nevertheless very distressing.—*Daniel's Texas Medical Journal.*

Hints in Microscopico-Histological Technology for the Student in Nervous Diseases. By Dr. Edward C. Mann, New York.—There has been so much done and written by my friend Dr. Thomas E. Satterthwaite, of this city, on this subject, that I shall only give a few general hints, referring the general practitioner to Dr. Satterthwaite's excellent treatise on histology, and to Frey's work on the microscope and microscopic technology. The student generally uses too strong solutions of alcohol for hardening the brain. If a freshly removed brain be put successively into a sixty, seventy, eighty, ninety per cent., and finally to remain in a ninety-five per cent. solution of alcohol, the effect upon the tissues of this gradual hardening will be vastly superior to the rapid hardening and shrinking produced by the careless method of at once immersing nerve tissues in absolute alcohol. Time, patience, perseverance, and skill, which will come by practice, will enable most persons to become fairly adept in microscopic technology. In using the microscope a large, steady table should be used, and the student should sit with the light coming in over his shoulder. Work by gaslight is to be deprecated. The technicalities of microscopic work are soon learned, and practice makes perfect, and a few fairly good preparations will, with most, be the incentive to further investigations in microscopy. Something besides the procuring a microscope is necessary in order to use it. The physician must familiarize himself with the entire *technique* of microscopy, and in place, as we have known some to do, of procuring the voluminous literature of the microscope and confusing his mind with the varied directions of authors, each of whom has his pet method of procedure, we advise him to buy Beale and Frey, and put himself under the direction of an experienced microscopist at first, until he is able to stand alone. * * *

Staining.—The carmine fluid, the fuchsin, Thiersch's indigo-carmine solution, hæmatoxylin solution, the double staining method with carmine and picric acid, osmic acid solution of one-quarter to one per cent., and the various metallic impregnations are all good. Satterthwaite, J. W. S. Arnold, Gerlach, Thiersch, Beale, Schultze, Cohnheim, Kölliker, Frey, and Tuke have all done beautiful work in microscopic histology, and there is yet much remaining to be done in this most fascinating field of research, especially in the nervous system.

Preservation and Mounting of Specimens.—We have glycerine, Canada balsam, copal varnish, and dammar. The latter I prefer for permanency. After staining and washing the preparation we wish to mount, first place it in absolute alcohol for fifteen minutes. This expels the water. From the alcohol transfer to oil of cloves or turpentine, the superfluous alcohol being first removed by blotting paper. In the oil of cloves the section becomes transparent in a few seconds. Remove the superfluous oil by blotting paper, and the section is then ready. In order to make more secure we place a layer of varnish round the edge of the covering glass a few days after mounting. To make dammar varnish we take gum dammar, in powder, one-half ounce, and dissolve in turpentine one and a half ounce, filter. Then take gum mastic one-half ounce, and dissolve in chloroform two ounces, and filter. Mix the two filtered solutions and again filter, and we have resulting dammar varnish for mounting microscopic preparations. To render sections of spinal cord and nerves beautifully transparent, use a mixture of acetic acid and glycerine, one to three. To render embryonic tissues transparent and hard, use ten drops of solution of caustic soda to each ounce of alcohol. By means of a one per cent. solution of chloride of gold, I have rendered visible the finest primitive nerve fibres of the cornea, and shown their distribution and termination in the epithelium of the cornea. I have also been fortunate not only in making sections, but also in successfully photographing sections of the retina, showing perfectly, first, layer of rods and cones ; second, the external granular layer ; third, the inter-granular layer ; fourth, the internal granular layer ; fifth, the fine granular layer ; sixth, layer of ganglion cells ; seventh, expansion of the optic nerve fibres ; eighth, their insertion into the inner limiting membrane, which is, ninth, the membrane limitans interna.—*Med. Bulletin.*

THE PATHOGENY OF GENERAL PARALYSIS.—In his work on "The Progressive Paralysis of the Insane," Dr. Mendel advocates the view that the conditions which give rise to the disease consist in active hyperæmia in the cortical substance of the brain, and a diseased condition of the vessels, which give rise to an escape of the constituents of the blood into the surrounding tissues. As a consequence of this osmosis and diapedesis, we find a proliferation of the glia cells and connective tissue and an atrophy of the nervous elements. If this theory be correct, pathological changes, similar to those of general paralysis, must obviously occur in animals subjected to conditions giving rise to such an escape of blood. The experimental demonstration, therefore, required that a method should be devised by which the intravascular pressure were so increased as to produce exudation into the cortical matter. The author showed (Berlin Academy of Science, April 17, 1884) that, when a narcotized dog is fixed upon a horizontally revolving wheel, with its head to the periphery, half an hour's rotation, at the rate of 120 turns a minute, makes the white matter of the brain anæmic, whilst the gray matter, the meninges, and skull-cap are gorged with blood, punctiform hemorrhages being peculiarly abundant in the neighborhood of the sulcus cruciatus. The same process applied to a much milder degree—for five minutes only—produces no such serious disturbances ; the animal manifests nothing but the usual symptoms of giddiness, which rapidly pass off. But it was found that by daily repetitions during a fortnight this apparently innocuous rotation gives rise to a general apathy, as well as a loss of muscular sense in the posterior extremities. These symptoms do not disappear if the animal be now left to itself and all its wants well provided for; on the contrary, they become accentuated week by week, the apathy giving place to imbecility, and extensor motor disturbances being developed; complete loss of muscular sense in the four extremities culminating in paralysis, paresis of neck and trunk-muscles, altered bark, and impeded micturition. The appetite is good, yet the body-weight goes on diminishing, and death occurs, with all the symptoms of general paralysis. The *post mortem* appearances bear a striking likeness to those observed in the general progressive paralysis of the insane. The dura mater is found adherent to the calvarium, and to the pia and cortex in the neighborhood of the sulcus cruciatus; the brain-substance is depressed here, as well as in the anterior lobe; the pia mater was opaque, especially along the vessels, and adherent to the cortex. The histological changes were most apparent about the sulcus cruciatus and Sylvian fissure, and consisted chiefly of proliferation of nuclei and neuroglia-cells, new formation of vessels, and alteration of ganglion-cells. It is worthy of notice that rotation-experiments made with the head centrally placed gave rise to cerebral anæmia, but were followed by no special results.—*Brit. Med. Journal.*

PATHOGENY OF PULMONARY EMPHYSEMA.—Most diseases and degenerations have at one time or another been attributed to trophic changes, the result of disturbed innervation. Dr. Brown-Séquard believes that nervous disturbances in the pneumogastric play a part in the production of pulmonary emphysema. He does not deny the agency of mechanical forces, but he thinks they have been overrrated, Neither forced inspiration nor energetic expiration during closure of the glottis has a preponderating influence in the genesis of emphysema. On the contrary, it is sufficient to excite the vagi as soon after death as possible in order to produce emphysema. The same result is obtained whether the post-mortem excitation be made at the medulla oblongata, at the cervical pneumogastric, or along its terminal branches, In opposition to Serres, it is asserted that stimulation and disease of the pons Varolii only exceptionally induce emphysema, though they are much more effective as causes of pulmonary apoplexy. The nearer the excited area of the pneumogastric is to the lung the more marked is the emphysema. As of clinical bearing on the experimental question, Dr. Brown-Séquard refers to the development of emphysema with the first attacks of genuine nervous asthma. It is impossible, he argues, that a few short hours of dyspnœa could develop so much emphysema. M. Laborde remarked, in the discussion on the paper, that amongst the decapitated emphysema was frequent. This circumstance is regarded as confirmatory of the opinions held by Dr. Brown-Séquard. Emphysema is common amongst the larger kinds of mammals.—*Lancet.*

FATAL SELF-INOCULATION BY A PERUVIAN STUDENT.—A Lima medical student in his final or sixth year, having selected as the subject of his graduation thesis the little-known South American disease "verruga," inoculated himself with it, and twentv-three days afterward began to show signs of the disease, which proved fatal on the thirty-eighth day. It is only fair to the authorities of the hospital Dos de Mayo, where the inoculation was performed, to say that this hazardous experiment was undertaken entirely by the student himself without any authority or advice from the physicians, and that no one else can be blamed for the fatal consequences of his rash zeal. He, however, succeeded in demonstrating that "the dermatosis known as verruga is a general infectious disease and inoculable, so that there is probably a micro-organism to be found. The period of inoculation may be considerable, being in this case more than three weeks. During the incubation period, before the dermatosis develops itself, an adynamic form of fever comes on with all the signs of serious changes in the blood, and perhaps leucocythæmia."—*Lancet.*

THE MICROCOCCUS OF VAGINITIS IN CHILDREN.—Dr. John Cséri examined the vaginal secretions of twenty-six children from 3 to 10 years of age, who were being treated in the Pesth Children's Hospital for various chronic diseases. In all of them a coccus was found, identical with Neisser's gonococcus. Dr. Cséri asserts, contrary to Fraenkel's views, that this coccus is the same as that found in gonorrhœa. Many cases of chronic catarrhal vulvo-vaginitis are certainly infectious ; others have not proved to be so. The coccus of the infectious form is identical with Neisser's gonococcus. Cultivations have not, however, yet been made. The secretion of infectious vulvo-vaginitis affects the eye. The spreading of this disease in children's hospitals takes place by means of washing, closets, bath-tubs, dressings, and the nurses themselves.—*Brit. Med. Journal.*

PTOMAINES: THEIR ORIGIN, CHARACTERS, AND REACTIONS—Prof. Anrep and Pœhl (*London Medical Record*) sum up their investigations and the literature on this subject thus :

1. Putrefaction, fermentation, and other yet indefinable alterations of albuminous substances, are accompanied by the generation of alkaloid-like bodies termed ptomaines.

2. The number of ptomaines is very great, and their chemical and poisonous properties are very different.

3. There are known fixed and volatile, fluid and solid, amorphous and crystalline ptomaines. All fluid ptomaines do not contain oxygen.

4. Almost all ptomaines change red litmus to blue and syrup of violets to green.

5. Like all alkaloids they form salts with acids, the formation proceeding without giving off water.

6. In regard to their solubility, ptomaines behave very differently ; some of these are soluble in water, others in ether, alcohol, benzine, chloroform, and amyl-alcohol. Ptomaine salts are easily soluble in water.

7. Some ptomaines are tasteless and colorless, others again possess an intense bitter taste or aromatic sweetish odor ; others again evolve a cadav-

eric odor, or one resembling coniine or nicotine. When treated with acids they sometimes emit a pleasant floral odor.

8. Ptomaines obtained from rye meal which has been subjected to fermentation give the same reaction as the ptomaines of any other extractions, These reactions are as follows :

(*a*) A solution of iodide of potassium with biniodide of mercury produces a whitish precipitate in a ptomaine solution slightly acidulated with hydrochloric acid. Twenty-four hours later, microscopic examination detects that the precipitate consists of minute prismatic crystals.

(*b*) A solution of iodide of potassium with iodide being added to an acidulated ptomaine solution, produces either a flocculent or a finely granular red-brown precipitate which is insoluble in diluted hydrochloric acid.

(*c*) A solution of phospho-molybdate of sodium gives a yellowish amorphous precipitate which is insoluble in diluted nitric acid, but on the addition of liquor ammoniæ in excess, at first takes a blue-green color, and afterwards dissolves, giving either a bright blue or green solution. The blue color is mostly observed during the first stages of the putrid decomposition. The original precipitate produced by phospho-molybdate of sodium on being heated assumes a green color without any addition of ammonia.

(*d*) Phosopho-tungstic acid gives whitish or greenish precipitates which are insoluble in dilute sulphuric and hydrochloric acids, but easily soluble in ammonia.

(*e*) A solution of tannic acid gives a white precipitate ; and the latter does not appear if tartaric acid be present.

(*f*) A solution of iodide of potassium with iodide of bismuth in presence of diluted sulphuric acid gives a yellowish precipitate, part of which passes into solution on heating and reappears again on cooling.

(*g*) A solution of iodide of potassium with iodide of cadmium sometimes produces precipitates which are soluble in the excess of the reägent and which by degrees assume a crystalline structure. This reägent precipitates the products of the first stages of putrefaction, which are not precipitated by iodides of potassium and cadmium.

(*h*) In some cases a solution of corrosive sublimate gives precipitates which gradually take a crystalline structure ; in other cases ptomaines are indifferent to this reägent.

(*i*) A solution of chloride of potassium gives, with some of the ptomaines, precipitates which are usually crystalline and soluble in hydrochloric acid and consist of a double salt.

9. Ptomaines are optically inactive bodies.

10. The color reactions of ptomaines are as various as those of the vegetable alkaloids.

THE SIMILARITY OF CYSTINE TO IODOFORM CRYSTALS.—Dr. E. Hurry Fenwick writes as follows to the *Lancet :* Those of my *confreres* who are constantly engaged in testing urine for diagnostic purposes in vesico-urethral disease may deem the following hint worthy of remembrance. I received a sample of urine stated to have been passed by a patient exhibiting most obscure symptoms of vesical disease. The urine was normal ; but on examining the deposit microscopically I found numbers of six-sided flat crystals of various shades of yellow. The case at once was mentally diagnosed as being one of cystinuria. The different shades of yellow seemed, however, very unusual ; and I was, moreover, disconcerted at finding that I could get no chemical evidence that the deposit was cystine. After about two hours' work I discovered the crystals to be iodoform, and on writing to the medical man in charge, expressing my opinion that the urine bottle must have been used for iodoform injection, I received an answer that the patient's bladder had been washed out with iodoform previously to the sample of urine which I had received being passed.

SANITARY.

THE SANITARY RELIEF OF NEW ORLEANS.—The following extracts are from a paper recently read by Dr. Joseph Holt before the New Orleans Medical and Surgical Association, and published in the *N. O. Med. and. Surg. Journal.*

The necessities of the situation are imperative. The Board of Health, Auxiliary Sanitary Association, and daily press are awakening with determined energy to the necessity of a concentrated effort in the direction of permanent reform.

It behooves this association, in order to maintain the integrity of a record as a faithful worker in the field of professional and public utility, to throw the whole weight of its intellectual force, together with its time and zeal, into an earnest participation in a cause which contemplates the redemption of New Orleans from the bondage of misfortune; from a subtle, a malignant influence as persistent as the penalty of violated law; a redemption of this city from the insalubrity of its own soil, which is the fostering parent of all our woes. To remove this menace, this constant source of mischief, and to furnish in its stead an assurance of a reasonable preservation of the public health, is to liberate this city socially, industrially, and commercially. Not to do so means to consign it hopelessly to degradation and decay.

Could we formulate a problem in simple addition, noting in its columns all the annoyance, the wretchedness, the disease, death, commercial loss, depression of property values, money realized here and invested in real estate elsewhere, retarded growth by such depletion, and the deflection of immigration, depression of enterprise and public spirit, the enforced idleness, growth of thriftlessness, what an appalling sum total would be shown on the debit side of no drainage! no sewage!

The case is a serious one and needs treatment, but harsh ciriticism and vehement anathema are not the remedies to meet the conditions complained of. They excite public clamor and outbursts of indignation which serve to entertain the attention for a few days, and then subside like wavelets upon a pool. To say the least, they have been long and vigorously tried, but with results so poor as to necessitate a change. The authorities are simply the exponents of the people, who are themselves finally responsible, and are as much to blame as the authorities! The sins of commission and of omission are about even all round, and for this reason let us dismiss crimination and recrimination as remedial agents.

If every business man, lawyer, editor, and doctor could only carry with him the conviction of responsibility to the future of his family and of his own interests—could work and eat and sleep with it as an ever-present reflection, New Orleans would be the best drained and the cleanest city in America inside of ten years. *There is no beginning to the solid advancement of New Orleans, except the beginning of assured health established upon the efficient drainage and sewerage of the city. Quarantine as we may! declare non-intercourse with the world! build around ourselves a wall without gates, if we will! until this city is provided with a superficial and subsoil drainage, and its sewage disposed of through some efficient system, we live in jeopardy, yea, in the certainty of disaster.*

Municipal sanitation (a modern term which implies drainage of soil and removal of refuse), together with a watchful *and rational* precaution against the introduction of pestilential infections, constitute the entire measure of human effort against yellow fever, cholera, and, including vaccination, smallpox. To begin the great work of municipal sanitary improvement, the course which presents itself to my mind as the wisest to pursue is this: Begin with the determination to establish a fixed plan that shall serve for all future work.

There can be no permanency, and hence no good results, unless the disturbance incident to frequent changes in local and State governments are carefully provided against, which can be done in one way only: create a supervising authority, free from all political influence and entanglement.

Until the people and their representatives are ready to concede this much for the redemption of all, it is useless to begin. Call this supervising head The Board of Public Works, as suggested by Dr. C. B. White. Let it consist, primarily, of seven citizens, chosen (four by the city and three by the State), for their known integrity, clear judgment, their zeal and efficiency as public-spirited men. Let the term of office be for seven years; one term to expire annually, and the vacancies to be filled either by the Board directly or upon its recommendation, thus making the body self-perpetuating. It is unnecessary to consider here the functions of this Board further than to state that it shall immediately employ the highest order of talent and experience in municipal engineering, with a view of perfecting surveys, formulating plans and commencing work. Such legislation, city and State, as may be required to create this Board, prescribe its duties, raise money and otherwise assist, should be secured at the earliest practicable moment.

As to the best plan of draining this city, there are nearly as many contrary opinions as there are persons to express them. It is not in bold expressions of opinion that danger lies, but in timid reticence and fatal apathy. The whole case with us is simply one in which we are the victims of indifference. For myself, I entertain very positive ideas in regard to the best method of superficial, storm-water and sub-soil drainage of this city, and am heartily in accord with our good friend, *The Daily City Item*, in its general view of the question.

In what direction shall the general course of drainage be?

It is physically impossible to drain the city coastwise, upward; we *must not* drain it into the river front or into Pontchartrain; we are therefore compelled to drain it directly downward from the upper to the lower limits of the city, through a *cloaca maxima*, or central viaduct, of particular construction, laid along the line of lowest depression, in the valley between the levee on the river front and Metairie Ridge. The water-shed or area of drainage to be relieved by this system is bounded above by the Upper Line Protection Levee, below by the protection levee, in front by the levee along the river bank, and in rear by the Metarie Ridge. The protection of this basin against inundation from without is the first piece of work to be accomplished by the completion of protection levees.

The next step is to establish a central drain, as stated, through the length of the city, to serve as the trunk, in relation to which the entire system of outbranching street gutters, smaller canals, sub-soil-tile drains and sewage pipes shall be constructed. It is impossible to include in this discussion, certainly at present, the question of a system of excremental sewage. This can well be deferred for a later development. The central drain is certainly a grand *cloaca* or main gut, for its contents are necessarily not only drainage water, but any and every kind of refuse matter washed or cast into it.

Work upon it would have to commence at the lowest end of the city and progress upward. Claiborne street, including the Claiborne canal, offers the most advantageous line. To illustrate its construction, its source should be at the point of junction of the Upper Line with the river, where a small flushing engine should be stationed. It should begin with a depth of three feet by five in width. These dimensions should gradually increase in conformity with the natural law which regulates the capacity of the bed of a stream to suit the accessions to it in its course. The rate of increase in dimensions should be such as to attain a depth of thirty feet at its outfall. The advantages of this sharply increasing depth are a rapidity of current and the allowance for deep sub-soil drainage, besides providing a temporary reservoir ample to accommodate a sudden and heavy rainfall. With a proper sub-soil drainage, the construction of such a canal would be equivalent to raising the entire city eight or ten feet. Canal street, for example, is twelve feet higher at the base of the levee than it is at a point a little beyond Claiborne street. The depth of the canal at the point of crossing added to this natural decline gives a fall of twenty-five or twenty-eight feet available for the drainage of Canal street and its tributary squares.

Whenever street gutters should require too deep a cut in order to acquire sufficient fall in their course towards the canal, the trouble could be overcome by final emptying through underground pipes. The central drain should be so constructed as to insure the greatest scouring effect of current, and therefore approximating a V shaped bottom to prevent accumulation of deposit. It should be faced throughout with heavy creosoted planking securely placed. It should subtend the two navigation canals through groups of six-foot iron tubes, and a special engine placed at these points to facilitate flow, if necessary. Although, in after years, it might be concluded to make this drain subterranean it should be commenced as an open one ; against which no valid objection can be urged, inasmuch as it would occasion no offense whatever, as will now be explained. The present system of flushing, inaugurated with such excellent results by the Auxiliary Sanitary Association, would be extended the entire river front, so that every latitudinal street gutter would be flushed in addition to the flushing engine at the head of the canal, and thus a head of cold river water would be maintained in the canal, with a current of at least two miles an hour. It matters not what kind of matter might enter the canal, it would instantly be diluted in a flood of pure cold water and start on a run that would throw it entirely out of the city from the most remote point in the course of four or five hours, at most. At the lower end or outfall of the central drain the final disposal of the ordinary daily discharge should be accomplished by a powerful lifting pump or engine, of enormous capacity, driving it through pipes well out into the river where it would be diluted in an infinite volume of water in rapid flow, and would also undergo speedy destruction by oxidation. New Orleans has as much right to sewer into the Mississippi as all the other cities on its banks and tributaries, including Chicago, which is at this moment bending its energies to cut a sewage canal and drain into the Illinois and save her precious lake front. To meet the exigencies of a heavy rush of storm water the canal should bifurcate at a point close to the discharging engine just mentioned. This prong should lead by the straightest line into Bayou Bienvenue, which should be dredged through to Lake Borgne. A supplementary engine should be placed at the cut through the protection levee for the purpose of urging the outflow of the flood, and in times of high water outside the levee, of lifting it over the levee in its final discharge. By this arrangement Bayou Bienvenue would become a safety-valve in emergencies, but not to be used as the ordinary channel of discharge, because sewage passing into it would quickly precipitate, choking the channel and perpetuating the noisome odors and disgusting spectacle so conspicuously a feature of the present drainage system.

To afford still greater security against excessive rainfall, the central drainage canal should be tapped at a point about midway of its course by a relief canal which should afford lateral discharge into Pontchartrain, along the line, if possible, of some existing canal. This additional safety-valve should also be provided with a draining machine.

THE SANITARY EXAMINATION OF POTABLE WATER.—While the determination whether a sample of water does or does not contain poisonous substances of a mineral nature is not a matter of difficulty, the classification of a water as safe, suspicious, or bad, so far as its organic constituents are concerned, can, in the present state of science, only be inferred from the results of examination by several methods. Unfortunately, these methods require great nicety of manipulation and considerable skill, so that they can only be undertaken in a well-appointed laboratory. The facts to which most importance seems to be attached are—the quantities of organic carbon and nitrogen present in the dry residue of the water, the proportion of ammonia that can be obtained from the water, the amount of potassium permanganate required to oxidize the organic matter, and the quantities of nitrites and nitrates present.

Recent reports on water-analysis point to the mere presence of nitrites as particularly suspicious; and, although a physician can rarely undertake a thorough analysis of water, there are methods by which the presence of nitrites may be quickly detected with certainty. One of these methods consists in adding to about four fluidounces of the water to be examined a few drops of pure hydrochloric acid, then about half a fluidrachm of a solution of sulphanilic acid and the same quantity of a solution of hydrochlorate of naphthylamine. The presence of nitrites is betrayed by a rosy or red color, which is developed in about twenty minutes, and the reaction will detect one part of nitrous acid in more than a thousand million parts of water. The other test is metaphenylene diamine, which produces a yellow color when added to water containing nitrites and acidulated with sulphuric acid. The first test is the more satisfactory; but it is important that the acids used in each be perfectly pure.—*Phila. Medical Times.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	“	1-6th	“
1 decigramme	“	1½	grains.
1 gramme	“	15	“
1 decagramme	“	150	“
1 hectogramme	“	1,465	“
1 kilogramme	“	14,720	“
1 myriagramme	“	145,824	“

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	“	1-100th	“
1 decimetre	“	1-10th	“
1 metre	“	39 37-100th	inches
1 decametre	“	10	metres
1 hectometre	“	100	“
1 kilometre	“	1,000	“
1 myriametre	“	10,000	“

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water
1 centrilitre	“	150	“	“
1 decilitre	“	1,500	“	“
1 litre	“	(1 qt.) 15,000	“	“
decalitre	“	150,000	“	“
1 hectolitre	“	1,150,000	“	“

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. “ “	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. “ “	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. “ “		455 69-100ths “
1 fl. gallon “ “		231 cubic inches.
1 fl. pint “ “		28 87-100 “

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudes,heimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

HYPNONE—THE NEW HYPNOTIC.—Phenyl-methyl-acetone or aceto-phenone are the chemical names of a new drug, upon the hypnotic properties of which M. Dujardin-Beaumetz has recently made a report to the Académie de Médicine, and which he has thoroughly studied with Dr. Bardet at the Hôpital Cochin. On account of its very marked hypnotic properties the experimenters propose for it the name hypnone, which is more convenient than the other names, and is at the same time descriptive of its properties and nature. It was discovered by Friedel in 1857; its formula is C_8H_8O, it is a liquid at 20 deg. C., and boils between 198 deg. and 199 deg. C. Its specific gravity is from 1,032 to 1,015; it is not soluble in water, and its strong odor resembles that of cherry-laurel or cut oats. Its physiological properties have been studied by Popoff and Nencki, who showed that it is transformed in the organism into carbonic and benzoic acids, and that it is finally found in the urine in the hippurate state.

When administered to an adult in doses of 3 or 4 drops—5 to 15 centig.—mixed with a little glycerine and given in a gelatin capsule, hypnone produces deep sleep, and in alcoholic subjects its hypnotic properties are superior to those of chloral and paraldehyde. Dujardin-Beaumetz and Bardet have administered it to nine patients, and have as yet seen no symptoms of intolerance. The halitus becomes unpleasant from the elimination of acetone by the lungs. Injected under the skin of a guinea-pig 50 centig. caused profound sleep, which deepened into coma, in which the animal died in about six hours. The discovery of a drug with such effects from a very small dose must be regarded as a valuable addition to therapeutics. It still remains to see why it is a hypnotic, and whether further experimentation will abundantly confirm the claims of the distinguished clinician who reports upon it.—*Journal of American Medical Association.*

MONSEL'S IRON FOR DIARRHŒA.—I began trying, in 1876, at the Seashore Home, iron alum (the officinal sulphate of iron and ammonia). I found it better than anything I had previously tried, and have used it freely ever since. It is not quite so well borne by the stomach as lead and bismuth, but far better than zinc or copper. The dose for a child is from one to three grains; for adults, from three to ten. At the Seashore Home we made up powders containing one grain of the salt to a twelfth of a grain of opium, giving one or more for a dose according to the age of the child. For adults the pill form is of course preferable. I have had the best results from its use. Last summer I began using Monsel's salt in its place, both in public and private practice. This I did from my experience of its great efficiency as a styptic, and a presumption that it might do equally well in diarrhœa; and have found it even better than iron alum. I have tried it only in the dry form manufactured by Squibb, under the name of Pulvis Ferri Subsulphatis. In this State it is not officinal, though it is precisely the same as the officinal liquid Ferri-Sulphatis evaporated to dryness. It may be given in the same doses, and in the same way as iron alum.—*Dr. E. T. Williams, in Boston Med. and Sur. Jour.*

A VALUABLE REMEDY FOR HEADACHE (*Physicians and Surgeons' Investigator*).—We lay no claims to originality, nor do we know who the originator was, but having used it for a year or more, and in many cases with remarkable results, we feel disposed to give it our indorsement, and desire to make it more generally known. The remedy is nothing more nor less than a solution of the bisulphide of carbon. A wide-mouthed glass-stoppered bottle is half filled with cotton or fine sponge and upon this two or three drachms of the solution are poured. When occasion for its use occurs, the mouth of the bottle is to be applied to the temple or as near as possible to the seat of pain, so closely that none of the volatile vapor may escape, and retained there four or five minutes or longer. For a minute or so nothing is felt, then comes a sense of tingling, which in a few minutes—three or four, usually—becomes rather severe, but which subsides almost immediately if the bottle be removed, and any redness of the skin that may occur will also quickly subside. It may be re-applied, if necessary, several times in the day, and it generally acts like magic, giving immediate relief. We believe this was the basis of a once popular nostrum. The class of headache to which it seems especially adapted is that which may be grouped under the broad term of "nervous." Thus, neuralgic, periodic, and hysterical headaches are almost invariably relieved by it. True, the relief of a mere symptom is quite another thing from the removal of its cause, yet no one who has seen the distress and even agony caused by severe and frequently recurring headaches (and who has not?) but will rejoice to be able to afford relief in so prompt and simple a manner; besides, it is sure to secure the hearty gratitude of the patient if he has suffered long. As to the modus operandi, we have nothing more definite than a theory to offer, and that is that the vapor being absorbed through the skin, produces a sedative effect upon the superficial nerves of the part to which it is applied. We know by experiment that its influence is not due to its power as a counter-irritant. We, however, know that it does act, and if we do not clearly see in what way it acts, that is no more than can be said of several other remedies which are firmly established in professional favor and confidence.

PALATABLE PRESCRIBING.—Cough mixtures can be to a certain extent rendered palatable by a selection of proper vehicles. The citrate of potassium can be largely masked by the free use of lemon juice. Muriate of ammonia is largely covered by liquorice, provided the latter be added in such quantity that there will be ten to fifteen grains of it for every ten grains of the muriate. The addition of glycerin to a mixture containing an ammoniacal or other irritant salt, often has the most happy effect in obtunding the acridity. It must not be forgotten, however, that glycerin throws out of solution most alkaloidal salts. This is essentially important in connection with the fact that the addition of glycerin to the tincture of the chloride of iron is most advantageous from the æsthetic point of view. We are very apt to combine tincture of chloride of iron with salts of quinine, strychnine, or other alkaloids. Even when such solution is very strongly acid, glycerin precipitates the organic principle. Syrup of squills, syrup of ipecac, and most other sweet expectorants, can readily be masked by the syrup of wild cherry bark, provided cyanide of potassium (at least 1-20 of a grain to a dose) be added to intensify the prussic acid taste. The excessive sweetness of these mixtures is disagreeable to some individuals; this, of course, can readily be obviated by the addition of lemon juice or other acid. There are certain very valuable remedies whose nauseousness in solution cannot be overcome by any combination. Under these circumstances the endeavor of the practitioner should be to give a dose so small and in such form that it can be enveloped in a mechanical coating of some sort. Whenever the material is a solid, this is readily managed by giving it in the form of a silver, gelatin, or sugar coated pill; for, whatever may be said in regard to the solubility of these preparations, they are dissolved in the stomach with sufficient rapidity for all practical purposes, provided the pharmacist has done his work properly, and the pills are at all fresh. It seems to be a tradition of the profession, that all cough remedies should be given in liquid form. We hear continually of cough mixtures, but who ever heard of a cough pill? Now there is little reason in this. Squill, ipecacuanha, tartar emetic, all the ordinary expectorants except ammoniacal salts, can be given in a coated pill as well as in a nauseous mixture.

When the drug is of such character that it cannot be readily given in pill unless the dose be very large, it is readily administered in capsules. Oil of eucalyptus should never be given except in capsules. Oil of copaiba has for decades been habitually given in capsules for other than pulmonary purposes; why not also for chronic bronchitis? The ammoniacal salts can be given in capsules as well as in mixture. It may be objected by some that their local irritant effects would be increased by such method of administration. This does not seem to be a valid objection; but if it is considered so, let the patient drink a half a tumbler of milk directly after ingesting the supposed irritant remedy, and the stomach will be protected much more effectually than if the nauseous drug were given in a teaspoonful of water.—*Therapeutic Gazette.*

DAMIANA AS AN APHRODISIAC.—I have used damiana in two cases indicating its use as an aphrodisiac, but the results following the first prescription were not sufficiently marked to warrant any opinion of its merit in such cases. As little could reasonably be expected in case of a small quantity, I recommended its continuance, and for one month the report obtained was that damiana was the best laxative ever used in obstinate constipation. Two weeks later the expected effect of the medicine began to appear, and to-day both cases report full restoration to sexual vigor. These cases were men between forty and fifty years of age; both had been unable to perform copulation since excision of hemorrhoids three years ago. That damiana is a complete and reliable aphrodisiac is fully proven in these two cases.

My belief is, the failure to obtain satisfaction from its use is due to impatience for immediate results, and that with a fair test it will rarely, if ever, disappoint.—*Dr. W. H. Miles in the Medical Age.*

CARNRICK'S PEPTONISED COD-LIVER OIL AND MILK. (Maltine Manufacturing Company.)—This is an exceedingly perfect emulsion of cod-liver oil and condensed milk, the oil-drops appearing under the microscope no larger than the granules of wheat starch. When the oil and fat are removed by ether and a drop of potash, a liquid remains which coagulates with acetic acid, and is evidently modified casein. The emulsion shows no tendency to separation. It has little of the disagreeable taste of the oil, and will be taken with ease by many who cannot digest pure oil. It is certainly a valuable and trustworthy preparation.—*Lancet.*

EUCALYPTUS IN BRONCHITIS.—Prof. H. C. Wood, in the *Therapeutic Gazette*, says that the oil of eucalyptus in ten minims doses (in gelatin capsules) four times daily, has, in his hands, replaced all stimulant expectorants in chronic or obstinate sub-acute bronchitis.

CHLOROSIS.—Professor Bartholow's experience is confirmative of the truth of the theory recently advanced, that chlorosis is dependent upon a depression of the nervous centres. A typical case in illustration was recently presented before the Jefferson Clinic. The patient, a girl, æt. 20 years, had been taking iron and arsenic for a long time with but little benefit. She still had the characteristic chlorotic complexion. Her appetite remained poor. She suffered great distress after meals, and her bowels were markedly constipated, only averaging one passage a week.

Professor Bartholow directed her to take as a nerve tonic, and as a stimulant to the primary assimilation—

℞.	Strychniæ sulph. - - - - -	gr. j.
	Acidi phosphorici, dilut. - - -	℥j.

M. Sig.—Ten drops in water after meals.

For the constipation he directed her to take three times a day a pill composed of—

℞.	Ext. nucis vomicæ - - - -	gr. ¼.
	Ext. physostigmæ. - - - -	gr. ¼.
	Ext. belladonnæ. - - - - -	gr. ¼.
	Ext. aloes. - - - - -	gr. j.
	Ferri sulphatis exsicc. - - - -	gr. j.

Under this treatment her improvement was rapid.—*Medical Bulletin.*

HYDROBROMATE OF HYOSCINE AS A HYPNOTIC IN INSANITY. (Dr. C. P. Henry quoted by Dr. H. C. Wood in the *Therapeutic Gazette.*)—Opium in its various forms, cannabis indica, chloral hydrate, potassium bromide, *et id omne genus*, have all of them their special and well-recognized values, but there is a large vacant spot which can alone be filled by the valuable drug under consideration. Chloral and the bromides are bulky and offensive to the taste, and many a lunatic will refuse to taste them. Morphine, from its readiness of hypodermic use, is serviceable, but is very often contra-indicated; and, besides, the resistance on the part of the patient whilst the injection is being given is very objectionable. For all such cases hyoscine is of extreme value. Its minute dose, its tastlessness, make it capable of admixture with palatable articles of food or drink which would be taken by any patient, except, of course, one who was starving himself. And, for such, it can be injected beneath the skin perhaps more readily and with better results than can morphine. In nearly all the cases in which I have used it, its efficacy has been clear. Besides occasionally employing it by the mouth, I have used it by this method continuously in two cases with marked benefit: one was a case of sub-acute mania, and the other one of acute melancholia. Both absolutely refused to take medicine; and the expedient I adopted was to add the narcotic to a little whiskey-and-water, given them at bed-time as a "night-cap," which they took readily.

PURE VACCINE VIRUS. — By a reference to the advertising pages of the JOURNAL it will be seen that Messrs. John Wyeth & Brother, of Philadelphia, have started a vaccine-propagating establishment under the most favorable auspices. Having assured themselves, after an extended inquiry, that the best virus is cultivated in Belgium, Dr. Charles E. Sajous visited at their solicitation the Belgian Vaccine Bureau, and personally procured a supply of well-authenticated virus for inoculations in this country, and the farm on which this process is now being carried on is located in the fine grazing lands of Chester County, Pa. The buildings of the establishment are arranged in accordance with the highest scientific requirements, and the care of the animals and the inoculations have been placed under the charge of Dr. W. L. Zuill, Professor of Surgical Pathology in the Veterinary Department of the University of Pennsylvania; while Prof. Roberts Bartholow, of the Jefferson Medical College, will have a general supervision of the methods and processes employed in obtaining the virus, and of the general hygiene of the establishment.

CHRONIC UNIVERSAL SQUAMOUS ECZEMA CURED BY CHAULMOOGRA OIL.—W. Locke Chew, Resident Student, Charity Hospital, New Orleans, reports in the *New Orleans Medical and Surgical Journal* the following case: V. S., admitted November 9th, 1884, Ward 4. Born in Italy, 35 years of age. In Louisiana twelve years. Laborer by occupation. Habits and condition good. Has for the past eight years been subject to attacks of partial eczema. These attacks would last from four weeks to two months, and after simple treatment would disappear. Six years ago present attack came on, and at no time since has he been free from eruption. No history of syphilis or scrofula given. Condition on admission: The entire cutaneous surface involved in the inflammatory process. Hands covered with thin scales. Dorsal surfaces of hands and arms covered with dense thick crusts. Large, weeping fissures in the folds of the joints. The skin beneath these crusts of a bright red or scarlet color, moist and warm, but unfissured. Legs, feet, and thighs in same condition as arms and hands. Body covered with thinner crusts, that flake off in large, thin pieces, the size of the hand's palm. Hair and scalp matted with thick, dense, horny crusts, like decaying oyster shells. Nose and eye-lids not much involved. Patient melancholic; anorexia marked. Placed on iron, arsenic and cod-liver oil, and given the white precipitate ointment locally. Bowels kept lax. After twenty days discharged improved.

Re-admitted in spring and treated similarly, and with oxide of zinc ointment and slight amount of crysophanic acid: ℈i to ℥i of zinc ointment. In twenty-six days left improved.

During the hot weather of July returned to Ward 9, service of Dr. A. B. Miles, in worse condition than when first seen. Same treatment begun and continued for one month, then other highly valued remedies tried without in any manner checking the disease. We now began treatment with chaulmoogra oil, and recommended the following mode of administration: Begin with small doses of two or three drops in large goblet of sweetened cream, and repeat three times a day. On the second day after treatment increase the dose one drop, and continue this till the dose reaches ten or twelve drops, three times daily, and for some days keep the patient at this; then if the disease is not cured, again increase the dose gradually, and with caution. We also ordered the patient an ointment of chaulmoogra oil, ℥ii, glycerine ℥iv, to be rubbed over body and limbs, and also a cold, clear-water shower-bath every four hours, and the patient kept quiet in cool part of ward. In ten days the improvement was marked. No complaint from itching after second day. In fifteen days all exudation had been checked, and disease became no longer troublesome. On nineteenth day left the ward cured, presenting the following appearance: Cicatricial wrinkles over entire person, skin glazed and thickened. Cutaneous hair at many angles. Scalp hair normal.

Remedies in Headache.—Caffeine is a very valuable remedy in this disorder, but should not be given in doses of more than two grains at a time; large doses are apt to produce nausea.

Codeine has many valuable qualities. It seems to me to have an action like opium and the bromides combined. Its cost, however ($12.00 per oz.), makes it an expensive drug to use.

Monobromide of camphor, in doses of two to six grains, is excellent for slight nervous headache.

A combination of caffeine and codeine is very good; but do not put monobromide of camphor with them—it will surely produce nausea.

Guarana is an excellent remedy for hyperæmic headache, and has some advantages over caffeine.

Fluid extract of camellia and of coffee owe their usefulness to the caffeine they contain.

The bromides are probably used more than any other class of remedies in headache. Their use should be confined exclusively to congestive headaches, except where they are used in conjunction with other remedies.

Ergot and digitalis are useful when we wish to tone up the blood-vessels or diminish their calibre, or to steady the action of the heart itself.

Aconite is occasionally indicated when it is necessary to get control of the heart.

Quinine, salicylic acid, opiates, hyoscyamus, belladonna, gelsemium (particularly where there is neuralgia), and nux vomica, are often indicated, and when used in combination with some of the remedies first mentioned, will add to their effectiveness.

Nitroglycerine in small doses is very useful in headaches due to spasm or anæmia of the brain. It acts very promptly.

Cocaine, on account of its peculiarly soothing and quieting action, is excellent in headaches due to cerebral exhaustion and other nervous conditions.—*Dr. R. W. Chittick in Detroit Lancet.*

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK STATE MEDICAL ASSOCIATION. SECOND ANNUAL MEETING.

DISCUSSION ON PNEUMONIA, NOVEMBER 17, 1885.

Undoubtedly the most notable portion of the scientific proceedings during the whole session was the general symposium on the subject of pneumonia, which came off in the evening of this day. The discussion was opened by Dr. Austin Flint, in a brief paper in which he propounded eight questions relative to the nature, pathology, prognosis, and treatment of acute lobar pneumonia, and in a clear and judicial manner brought out the most important points bearing upon the various problems connected with the disease. In the course of it he mentioned that he had never seen a case of relapse in this affection, and expressed his conviction that there was no tendency whatever to relapse in it, a point which he considered to argue strongly in favor of pneumonia's being a continued fever. The occurrence of an attack of it, however, did not diminish the susceptibility to a future recurrence of the affection, a point in which it differed from the ordinary essential fevers. A few years since Niemeyer and his school had attempted to show that pneumonia often led directly to pulmonary phthisis; but Louis, more than half a century ago, had satisfactorily demonstrated that it was characterized by no such tendency, and later researches had abundantly confirmed his results.

The first question, "Is lobar pneumonia a primary local inflammatory disease, or is it an essential fever, the pulmonary affection being secondary thereto and constituting its anatomical characteristic?" was discussed by Drs. Henry D. Didama, of Syracuse, and F. W. Ross, of Elmira, in excellent papers, in which they both took the ground of its being an essential fever, and presented in a concise manner the various arguments in favor of this hypothesis. Doctor Didama remarked that three views regarding the nature of this disease had widely prevailed at different times. The first was, that, preceding the pneumonic attack, there was a morbid increase of fibrin, with the addition of a certain unknown element, in the blood, the accumulation going on until there was an explosion in the form of a chill, followed by fever; and that the lungs had a special affinity for the blood in this condition. The objection to this view was that the pre-existence of hyperinosis was merely assumed, and not demonstrated. That it was erroneous was shown by the fact that in acute rheumatism hyperinosis constitutes a marked feature; but it does not produce pneumonia. The second was the inflammatory view, which regarded the affection as an ordinary phlegmasia, in which there are predisposing and exciting causes, and in which, when the inflammation has run its course, the disease ends. But, he contended, the ordinary causes of phlegmasia were not sufficient to excite pneumonia, as was the case in bronchitis; however, it could not be produced experimentally, and it differed from the ordinary inflammations in the marked severity of the chill inaugurating it and the high grade of fever attending the attack, which, in the early stages, at all events, could not be accounted for by the local trouble present.

The third view was that it was an essential fever. In connection with this he remarked that the belief seemed to be gaining ground that all communicable diseases are of germ origin. If, however, pneumonia be a constitutional affection, why are the lungs always implicated, and why, as is most frequently the case, but one lung, and only one lobe of that? In reply to this question, he said that many pathologists considered that each essential fever has its special local manifestation, well-marked instances of which could be found in the case of typhoid fever, epidemic cerebro-spinal meningitis, glanders, and other infectious diseases. In most of the general affections which had a local predilection, however, a number of organs were likely to be involved in the diseased process. This was true also of pneumonia, in which the kidneys, liver, spleen, and heart were not infrequently implicated. Among the objections which had been raised to this disease being one of the essential fevers was, that in the latter there was a diminution in the quantity of fibrin in the blood, while in pneumonia there was an enormous increase of fibrin. But Andral had shown that the same thing was true of variola in the early stage. Again, it was objected that pneumonia predisposes its victim to a recurrence (not a relapse); but the same thing was true of cholera, erysipelas, diphtheria, and other similar affections. Having referred to the fact that the investigating committee of the British Medical Association had reported that cases of pneumonia have been observed in which it was impossible to detect any lesion in the lung, he said, in conclusion, that the labors of Jürgensen, Eberth, Leyden, and others, including our own Flint, had so far established the true nature of this disease that it could no longer be doubted that it was really an essential fever.

Dr. Ross said that at the present time he thought the majority of practitioners would pronounce pneumonia to be a local disease of the lung. For himself, however, the more he saw of it the more and more convinced he became that it was undoubtedly constitutional. Thus, it selected by preference certain ages and conditions, and there was no ratio, as a rule, between the severity of the attack and the amount of pulmonary tissue involved, except in those cases where a very large amount was implicated, where the damage to so extensive a portion of the lungs might by mechanical means produce disastrous results. Ordinarily, the fever and constitutional disturbance were the elements to be taken into consideration, and, when the temperature fell, the whole aspect of the disease was changed. The patient was then on the high road to recovery, notwithstanding the fact that a physical examination showed that the local trouble was as serious as ever, or even more aggravated than before. The case might be different in pneumonias which followed an injury or occurred in connection with some long-continued pathological condition; but Dr. Frederick Roberts, who did not himself believe that the disease was an essential fever, expressly states that such attacks are not those of acute croupous pneumonia. Doctor Ross went on to say that whenever in the latter affection we find the fever not too high and the pulse moderate, we can look for a good result, notwithstanding the condition of the lungs. Again, the kind of treatment which is most efficacious is that required for a constitutional rather than a local disorder. The common selection of the right lung also strongly points to a constitutional origin, just as the intestinal lesions in typhoid fever do. In the same way it is noticed that the eruption of variola constantly appears first upon the face, and that it shows a special preference for the malar portions of the latter. Diphtheria and scarlet fever, as well as other constitutional affections, also have their peculiar local manifestations. In conclusion, he remarked that a disease which had the essential features of a continued fever, which could not be artificially produced, and in the treatment of which the condition of the heart was more of a guide than the lungs, ought rightly to be classed among the continued fevers.

Dr. E. G. Janeway spoke on the second question, "What facts and rational grounds, with our present knowledge, can be cited in support of the doctrine that acute local pneumonia depends on the presence of a specific micro-organism?" Having stated that he had been prevented by a severe attack of the disease in question from making a number of personal investigations which he had contemplated in connection with the present discussion, he proceeded to refer to the labors of Klebs, Eberth, Leyman, Friedlander, and others, in establishing the identity and etiological efficiency of the pneumo-coccus. While expressing his conviction that this microbe was really the causative agent in pneumonia, he thought it well to call attention to the fact that Dr. George M. Sternberg, U. S. A., had recently claimed that the pneumonia-coccus of Friedlander is identical specifically with a micro-coccus previously described by himself, which is commonly found in normal human saliva. Dr. Sternberg, however, had not, it seemed, made any parallel cultures of the two microbes. In conclusion, Dr. Janeway stated that three days before the meeting he had injected three rabbits with an old pneumonia culture, and that one of them died. The examination showed that there was inflammation of both pleuræ, and that the lung on the side of the body which had been injected was inflamed and solidified, while the other lung was collapsed and exhibited petechial points through its tissues. There was, therefore, undoubtedly septicæmia with pneumonia. (The specimen was exhibited.) The other rabbits were still alive, but one of them was ill and likely to die. A strong case, he said, could be made out in favor of the pneumo-coccus as the cause of pneumonia. The question was, Is the pneumonia obtained by experimentation with this a fair representation of pneumonia as it occurs in the human subject? The nature of the proof demanded for the pneumo-coccus is the same as for microbes in the other affections, viz.: 1. The disease-exciting germ must be proved constantly present during the presence of the disease, or at least of its earlier stages. 2. It must admit of cultivation out of the body under such circumstances as to assure us of its purity. 3. Re-introduced into the system it must excite in susceptible individuals the same disease phenomena. 4. In the individual so made ill by the introduction of the cultures we must again find the same germs as the cause.

The third question, "What conditions incident to acute lobar pneumonia tend to render the disease fatal?" was discussed by Drs. W. H. Robb, of Amsterdam, and H. M. Biggs, of New York. The former said that statistics showed that the average mortality was one in five, and that the disease was especially fatal in the very old and the very young. It was more fatal in negroes than whites, and in the female than in the male, the mortality figures in the two sexes bearing the relation of three to two in Vienna. Pregnancy also increased the danger from the disease, and it was more fatal when it attached to the upper lobe of the lung than the lower. Recovery was very doubtful when the whole of one lung was involved, and in double pneumonia recovery was the exception. In chronic drunkards the danger was nearly doubled, and it was also great in cases with such complications as endocarditis, pericarditis, and emphyzema. It was also noticeable that the disease was more fatal in some years than in others. When the pulse reached 130 or 140, and remained thus rapid for any length of time, the case generally ended fatally, and an intermittent pulse indicated great danger. A temperature of 105° or over was a bad sign, and muttering delirium and subsultus tendinum were usually of fatal import. Doctor Biggs stated that in acute pneumonia the tendency was to recovery, and when this did not occur the fatal issue was to be referred to other conditions complicating it. Among them were the existence, (1) of some unfavorable condition as regards habits, constitution, age, etc.; (2) of some other acute or chronic disease; (3) of certain complications developed in the course of the disease; (4) of the involvement of more than one lung; and (5) of intense activity of the morbific principle. Inquiring whether it was possible to trace any circumstance which was common to all the different conditions rendering the prognosis bad, he said that he believed it was, and this was heart-failure. He considered pneumonia as an essential fever which has its local manifestation in the lung, which is infectious in the same sense that typhoid fever is, and which is due to a specific cause.

In discussing the fourth question, "Are there known remedies or therapeutic measures capable of arresting the disease, or of exerting a curative influence by either shortening its duration or conducing in any way to a favorable termination?" Dr. T. F. Rochester, of Buffalo, advocated with much earnestness the special efficacy of carbonate of ammonia, the advantages of which he had first learned when serving in the hospital in 1848, under Alonzo Clarke and John T. Metcalfe. It was important that the solution should be made from the freshly prepared crystals, and that the drug should not be kept in the form of powder. He advised that it should be used in doses of from five to ten grains every two hours, and that it should as a rule be given in milk. In the old and debilitated as much as ten grains every hour might be required. With the carbonate of ammonia he usually employed about five grains of Dover's powder, or an eighth of a grain of morphine every four hours. When alcohol was indicated it was sometimes wonderful to see what it could accomplish, and a highly nutritious diet was always of service. He did not believe in the use of the arterial sedatives, but digitalis and convallaria were sometimes of service in stimulating the heart's action. Quinine, kairin, and antipyrin were also useful, but he thought that the employment of the latter might be carried too far.

The fifth question was, "Is blood-letting ever indicated in this disease, and if so, what are the circumstances indicating and contra-indicating this measure of treatment?" and it was discussed by Dr. Simeon T. Clark, of Lockport. Possessed of a strikingly handsome presence, a clear and well-modulated voice, a graphic style of writing, and no little elocutionary power in delivery, Dr. Clark undoubtedly made the oratorical hit of the evening, being listened to with profound attention and frequently greeted with hearty applause. Believing that the disease was an inflammatory affection, he said there was ground for supposing that, like any other inflammation, it might originate from a variety of causes. In the course of his remarks he stated that the experience of physicians in large city hospitals should not be accepted with too much confidence by country practitioners as always applying to their own patients, and related two cases in which he was confident that he had saved life by the use of the lancet. One case, in which he drew sixteen ounces of blood, was that of a robust young man whose system was overwhelmed with complete stasis at the commencement of an attack of pneumonia; and the other, in which he drew somewhat less than eight ounces, was that of an Irish woman sixty years of age, accustomed to hard manual labor, who was suffering from passive pulmonary œdema on the fifteenth day of the disease, stimulants producing no effect, and death apparently being imminent. These two conditions, he believed, were indications for the infrequent but judicious use of the lancet, and the result was the test of its efficacy.

Drs. John Shrady, of New York, and E. D. Ferguson, of Troy, discussed the sixth question, "Is alcohol useful in the treatment of acute lobar pneumonia, and if so, what are the indications for its use, and how is its use to be regulated as regards the quantity given, etc.?" Dr. Shrady said that the faith in the efficacy of alcoholic stimulus was too deeply rooted to be disputed; but he believed that it was overrated. It was supposed that the more rapid the pulse the greater the need of alcohol, and that it was especially indicated in intermittent pulse. Still it was only a forlorn hope. He did not believe that it had the effect of lowering the temperature. In cases where it seemed to be required from four to eight ounces of spirits a day would usually prove sufficient, and he thought it was best to give it in the form of milk punch. Dr. Ferguson said that he was not aware that a comparison of two sets of parallel cases, in one of which alcohol was used, and in the other not, had ever been made. Having referred to a number of authorities, he said that it could not be doubted that there exists a general opinion that alcohol is of service in quite a large percentage of cases of pneumonia. In some cases the increased tolerance of alcohol was quite remarkable. In others, its use was attended with extreme danger. There was no reason to doubt that alcohol was decomposed within the human organism, and being thus a generator of force, must therefore be regarded as a food. It was of special service in cases where the time required before ordinary food could be digested would lead to a fatal result, the alcohol furnishing energy without any demand upon the tissues of the body. It temporarily increased the strength of the heart muscle, and he believed that it also acted as an antiseptic. He had not been able to find contra-indications to the use of alcohol in moderate doses in any cases of pneumonia, and he was at a loss to understand the feeling against it. If the censure was upon the immoderate use of this agent, as well might we inveigh against the immoderate use of arsenic or opium. As a rule, alcohol should be given at frequent intervals, as the effect on the heart was evanescent; and he thought that from one-half to one ounce of whisky, repeated every one or two hours, was required.

The discussion was resumed on the second day, when Dr. C. G. Stockton, of Erie County, read a paper on the seventh question: "To what extent is it safe and useful to employ antipyretic measures of treatment in cases of acute lobar pneumonia, inclusive of the cold bath, spraying the body, or the wet sheet?" With the possible exception of cold sponging, he condemned the use of external antipyretic measures. The selection of an internal antipyretic, he thought, should be made according to the indications of the case. As to anti-pyrin, he believed that it should never be given in doses larger than twenty grains, nor at intervals of less than eight or ten hours.

The eighth and last question: "Do relapses of acute lobar pneumonia ever occur during or shortly after convalescence, and does this disease involve any special liability to other diseases, or sequelæ?" was discussed by Dr. J. G. Orton, of Binghamton, who stated that he had never seen an instance of such relapse, and did not believe that they ever occur, the so-called relapses being merely due to complications or the involvement of a new portion of the lung. Bronchitis, pleurisy, acute nephritis and pericarditis were likely to result indirectly from pneumonia, and one attack of the latter disease predisposed to subsequent attacks. Some general debate then brought this memorable discussion to a close.—*Journal of Amer. Med. Association.*

ORIGINAL CORRESPONDENCE.

LETTER FROM PARIS.

PASTEUR'S INOCULATIONS.

PARIS, December 25th, 1885.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: I was prevented by a severe illness from sending you a letter for the last number of the JOURNAL, and unavoidable circumstances limit me to a very brief communication to the succeeding one.

I write, in fact, only to refer to a correspondence which I have recently had with Pasteur in relation to the practicability of rendering his process of vaccination against the virus of rabies of utility to the people of the United States. Having watched the development of his plan of prevention with great interest, and being *au courant* with the facts and arguments which have been marshalled in antagonism to it, I have become convinced of the reliability of the conclusion which he has so emphatically enunciated before the Academy of Medicine, viz.: that he has discovered a means of neutralizing the virus of canine rabies, and, consequently of preventing the development of hydrophobia in the human system.

Influenced by this conviction, combined with sentiments of humanity and of patriotism, I recently addressed him a letter enquiring as to the possiblity of the elaboration of some plan by which my compatriots might be able to participate in the benefits to accrue from his great discovery. Among other things I suggested the feasibility of organizing under his auspices a Vaccinal Agency in New York or some other great city of the United States.

He replied promptly, and in the following terms:

TO DR. EDWARD WARREN.

Dear Sir: I do not think the establishment of a Vaccinal Agency in the United States practicable at present. If persons bitten by rabid dogs will come *at once* to Paris, I promise to treat them successfully, notwithstanding the long interval which must elapse between their contact with the virus and their arrival here. It will be necessary for them to remain under my care for eight or ten days.

With the assurance of my high consideration,

(Signed) PASTEUR.

P. S.—The treatment for the present is gratuitous.

This communication, as you will perceive, illustrates at once the self-reliance and the liberality of the eminent *savant;* while it offers to Americans a participation in the blessings of his great discovery—ensures to them protection against one of the most dreadful and intractable diseases of which humanity is the victim.

Should my medical brethren at home desire to avail themselves of the skill and bounty of this great discoverer for any of their patients, I invite them to communicate with me, as few things will be more agreeable than to be the means of bringing the unfortunate creatures who require treatment in this connection *en rapport* with Pasteur, and of contributing to their comfort and accommodation during their stay in Paris.

I am very truly and respectfully yours,

EDWARD WARREN, (Bey) M.D., LL.D.

THE TREATMENT OF CARBUNCLE.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: I see in the December number of your Journal a description of Bulkley's mild treatment of carbuncle, and it has occurred to me that it would not be out of place to publish a method of treatment almost equally mild, and at least equally successful in my hands. It has been my fortune to treat a number of cases of carbuncle in broken-down men of middle age in various situations—on the neck, back, and shoulders, and in a few cases on the face. Some were accompanied by considerable fever and depression, but all recovered without the tedious convalescence that surgical writers lead the novice to expect. The treatment is as follows: For the first forty-eight hours sulphide of calcium 1-10 gr. every hour day and night is administered, beginning one hour after a bottle of citrate of magnesia has been taken. Poultices of flaxseed meal and sweet oil are applied locally and frequently renewed. On the third day quinine in five-grain doses, with some bromide or Dover's powder three to six times in the twenty-four hours, is substituted for the sulphide of calcicum. As soon as spots of softening appear they are opened with the point of a bistoury, or those spontaneously discharging are slightly enlarged. The nozzle of a pointed syringe is introduced into each, and the cavities washed out with carbolized water (1-20). Over each of the openings thus made is placed a pledget of absorbent cotton, hollowed out on the side next the carbuncle, and with the surface of this hollow matted together by a solution of carbolic acid in glycerine (1-8). The edge and outer surface of the cotton are kept dry. If the carbuncle is not very large, one pledget may be made to cover all the openings. A layer of dry cotton is next applied and bandaged firmly. This dressing is renewed night and morning. Of course, stimulants and food are administered, as in any debilitating disease.

Theoretically, it may be supposed that the absorbent cotton and glycerine assist in depleting the congested tissues, and at the same time "draw out" the contents of the cavities of the carbuncle; and the carbolic acid is at once antiseptic, analgesic, and mildly cauterant. But whatever the explanation, this dressing initiates repair at once. As the case progresses, the quantity of carbolic acid is diminished, and finally a simple vaseline ointment applied.

J. T. MCELROY.

149 Lexington Avenue, New York.
DECEMBER 28th, 1885.

REVIEWS.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By the late CHARLES HILTON FAGGE, M.D., F.R.C.P., Physician to, and Lecturer on Pathology at, Guy's Hospital; Examiner in Medicine in the University of London; Senior Physician to the Evelina Hospital for Sick Children, etc. Including a Section on Cutaneous Diseases, by P. H. Pye-Smith, M.D., F.R.C.S. Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases by Samuel Wilkes, M.D., F.R.S., Physician to Guy's Hospital and to the Royal Hospital for Children, London; and Complete Indexes by Robert Edmund Carrington, M.D., Assistant Physician to Guy's Hospital, London, Volume I. Philadelphia: P. Blakiston, Son & Company. 1886. Pp. 1040.

(*First Notice.*)

It is greatly to be regretted that Dr. Fagge did not live to see the completion and publication of this great work, upon the preparation of which he was busily engaged for more than twelve years, and which undoubtedly constitutes one of the most important treatises on the practice of medicine which has appeared for many years. It is comprised in two royal octavo volumes, each of a thousand or more pages (the second volume being now in press), and is designed to be in every way complete and exhaustive. The section on diseases of the heart had not been finished, and that on diseases of the skin had not been begun, by the distinguished author when he was cut off by the hand of death in the midst of his brilliant career, and the lacking portions have been supplied by two of his hospital colleagues, Dr. Wilkes and Dr. P. H. Pye-Smith. The latter, by the express request of Dr. Fagge, and at the earnest solicitation of his widow, has also taken upon himself the task of editing the whole work, and the general arrangement of sections and the sequence of most of the subordinate groups has been laid out by him. In so doing he says he has been guided more by the clinical than the pathological relations of the several subjects, and that in drawing up the contents of each chapter, the head-lines of the pages, and the titles of the subcapitular sections, while following the lines indicated by the author, he has endeavored to make the order easy to follow and also to facilitate reference.

What position Fagge's practice will occupy among other works of its kind, time alone can determine; but whatever may be its defects, it will, without doubt, remain a noble and lasting monument to the zeal, industry, and distinguished talents of its lamented author. In it the whole vast field of internal pathology and therapeutics is traversed, and, in some particulars, it is a more full, elaborate, and satisfactory text-book than any of the others. The conversational style of the author has been carefully preserved by the editor, and, throughout the whole, his strong individuality can be readily distinguished. In his preface, Dr. Pye-Smith says: "Those who knew the writer, will pardon an occasional colloquialism if, as I hope they will sometimes, while they read, seem to hear his low, rapid voice, and see his bright intelligent glance, and note his quiet smile of doubt or his eager nod of assent." Of him Dr. Walter Moxon said, not long since, in the *Lancet*, "Fagge was, to my mind, the type of true medical greatness. I believe he was capable of any kind of excellence. His greatness as a physician became evident, to observers of character, very soon after his brilliant student career had placed him on the staff of Guy's Hospital. He did not merely group already known facts, but he found new facts. Former volumes of Guy's Hospital Reports contain ample and most valuable proof of his greatness as a physician. His genius of eyesight, of power of observation, if you will, was sustained by immense memory and brought into action by vivid and constant suggestiveness of intelligence. I watched Fagge closely, and knew him to be one of the most dynamic minds of the age; certainly second to none in our profession. * * * He was the very genius of candor and truthfulness of truest modesty. You may read all his papers, and never once wil you come across any exaggeration such as worse than falsifies half the medical work that sees the light in our press. He gave to every predecessor in the field all credit that was due. Indeed, his always generous desire to do justice often induced him to credit those he cited for a completeness of idea which in truth belonged properly to himself. * * * Few medical writers of his age are more frequently quoted, either in his own country or throughout Europe and America. Whoever had Dr. Fagge's facts to support him, was sure, at least, of that part of his ground. His papers on 'Intestinal Obstruction,' on 'Diseases of the Liver and Peritoneum,' on 'Croup and Diphtheria,' and on 'Diseases of the Heart,' may be instanced as examples to show the scale on which he gathered together facts as raw material from which either he himself or others following him might reach new and sound steps in advance. Fagge's earnestness as a physician made him bold and original in therapeutics. He was too much imbued with the healing spirit to stand by and see his patients die in accordance with pathology. * * *

"He was not by any means the man to treat clinical medicine in a spirit of scientific despair, as is the manner of some who teach it, so that meaner minds will obtain the despair without the science. He was always ready in the invention of new measures of treatment. Those who write originally on therapeutics may be divided into: (1) Those who love relieving the sick; (2) those who are set upon the laws of action of the drug; and (3) those who wish to push some new remedy for the sake of a name. Of course, all these motives may be blended together in various proportions, but it is generally pretty evident which of them constitutes the true actuating power. Fagge, in his therapeutical teaching, like a true physician, was always plainly actuated by the first and purest of these motives. I will not speak in disrespect of the second kind of motive. Dr. Fagge did good work in this direction. * * * * * * * When there is no known cure for a disease, we have to form an idea of the disease, and meet it with the idea of a remedy. And although this proceeding is not, as a rule, very satisfactory, yet we have no right to think trivially of a branch of inquiry which tries to give us more definite ideas of the powers of our remedies. Dr. Fagge's work on Digitalis was a good example of the best sort of this kind of work." In the preface, the editor feels called upon to offer some apology for the frequent quotation from the *Guy's Hospital Reports;* but, in fact, no such apology is needed, for it is without doubt as a practical embodiment of the vast stores of experimental knowledge that have been gathered at that venerable and illustrious institution that Dr. Fagge's work will be most highly prized by the medical profession. As Dr. Pye-Smith himself says, one of the great merits of the book is that, while paying due respect to the many admirable publications of the last twenty years, in other countries as well as England, "it is essentially based upon experience gathered in the wards, the dead-house, and the out-patient rooms of one of the great London hospitals. If some of the eminent physicians connected with the sister schools of medicine in London, Edinburgh, or Dublin could be induced, like Dr. Bristowe and Dr. Frederick Roberts, to write a systematic treatise on medicine, and if they put before the profession the invaluable traditions of pathological experience and of practical use which each school possesses, I am persuaded that we should all wish them to write as frankly and as unrestrainedly as did the author of these volumes."

A COMPLETE PRONOUNCING MEDICAL DICTIONARY: Embracing the Terminology of Medicine and the Kindred Sciences, with their Signification, Etymology, and Pronunciation. With an Appendix comprising an explanation of the Latin Terms and Phrases occurring in Medicine, Anatomy, Pharmacy, etc.; Together with the Necessary Directions for Writing Latin Prescriptions, etc., etc. By JOSEPH THOMAS, M.D., LL.D., Author of the System of Pronunciation in Lippincott's "Pronouncing Gazetteer of the World," and "Pronouncing Dictionary of Biography and Methology." Philadelphia: J. B. LIPPINCOTT COMPANY. 1886. 8vo. pp. 844.

Dunglison's Lexicon, the third edition of which was published in 1842, long held the position of a standard among American practitioners, and it is probably a fact that it still constitutes the only work of reference of the kind upon the book shelves of many of the older members of the profession.

Dr. Thomas's Dictionary, which is arranged on the basis of his smaller "Comprehension Pronouncing Medical Dictionary," while inferior in some of the essential qualifications of a work of this class to other dictionaries now in vogue, has certain points of special excellence, and on the whole will be found of great service to the student and practitioner of the present day. To meet the needs of the medical students unfamiliar with Latin, who are now so frequently met with in our professional schools, fuller explanations in regard to a number of subjects have been furnished than is usual in the preparation of medical dictionaries; and in the admirable Appendix there is a considerable amount of matter of special value to such. Indeed, the article on the writing of prescriptions might be studied with advantage by a good many practitioners both old and young. In addition to this, the Appendix contains a full explanation of Latin terms, phrases, etc., and tables of doses, of chemical symbols, of the orders and families of the living mammalia, and of metric weights and measures.

Under the heading Pathogenesis, in the body of the work, Dr. Morris Longstreth gives an excellent *résumé* of the history and present position of the germ theory of disease, as a general hypothesis and in its relations with special affections. It has been objected that an article of this length is out of place in a medical dictionary; but the importance of the subject sufficiently justifies its insertion, and there can be no doubt that the information derived from many sources and thus succinctly presented will prove very welcome to a large number of readers. The setting of the work is very handsome in every way.

THE SCIENCE AND ART OF MIDWIFERY.—By William Thompson Lusk, A.M., M.D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Hospital Medical College, Consulting Physician to the Maternity Hospital, etc., etc. New edition. Revised and enlarged. With numerous illustrations. New York: D. Appleton & Company, 1885. Pp. xviii.—763.

When the first edition of Lusk's Midwifery appeared in 1881, it at once took a leading position among the standard medical works of the world. That its genuine worth has been duly appreciated by the profession is shown in the fact that within three and a half years a third edition has appeared, and that it has already been translated into French and Spanish, while an Italian translation is now in course of preparation. Gratified with the flattering reception which his work has everywhere met with in Europe and America, Professor Lusk has aimed in this last edition to bring its teachings fully up to the most advanced ideas of the times in the field of obstetrics; and that he has succeeded in maintaining his book at the van of the foremost authorities of the day no one who has devoted any attention to its consideration will hesitate for a moment to admit. As he says in his preface, the activity that has prevailed in the study of obstetric phenomena and in the perfecting of obstetric practice in the short space that has intervened since its first appearance has necessitated many changes in the text, and has led to the nearly complete rewriting of entire subjects. Many new points have been added in regard to the general treatment of the puerperal state, and with no little enthusiasm he remarks: "It is with special gratification that I take this opportunity to draw attention to the triumph of the modern doctrines concerning the nature of puerperal fever, and to the wonderful results that have proceeded from the application of Mr. Lister's teachings to the hygiene of lying-in hospitals. The latter have ceased to be pest-houses, and it is now a question whether forlorn women, confined in properly conducted maternities, are not actually safer in childbed than the fortunate classes in their own homes."

It will be observed that Dr. Lusk still adheres to the routine use of the vaginal douche after normal labor, directing (p. 253) that at least twice daily the vagina should be syringed with some warm disinfectant lotion. Readers of this JOURNAL need not be told what an active and successful warfare against this practice has been waged by Dr. Simon Baruch, of New York, and others; and at the present time it has been abandoned by a large number of the most eminent obstetrical authorities in this country and Europe. This renewed advocacy of the measure from such a high source will doubtless call forth a new protest from Dr. Baruch, who has stated that he does not propose to cease agitating the subject "until the last armed foe expires."

Taken altogether, however, this is an ideal text-book on midwifery; the illustrations being numerous and for the most part admirable, and the general mechanical execution of the work in keeping with the excellence of the matter it contains. A word of special praise is due the remarkably full and satisfactory index, which has been prepared with the assistance of Dr. W. H. Flint.

ESSENTIALS OF THE PHYSICAL DIAGNOSIS OF THORACIC DISEASES. By E. DARWIN HUDSON, JR., A.M., M.D., Professor of General Medicine and Diseases of the Chest of the New York Polyclinic; Physician to Bellevue and St. Elizabeth Hospitals. New York: Styles & Cash, Printers. 1885. Pp. 63.

Mirabile Dictu! Here is a medical book without a preface. But, in truth, none is required. On the title page it is stated that the volume has been prepared for the use of physicians in the class of general medicine and diseases of the chest of the New York Polyclinic, and that the system of Walshe has been largely followed, with modifications after Flint, DaCosta, Loomis, Leaming, and others. This tells the whole story, and any further words of explanation would be superfluous. To those who are familiar with Dr. Hudson's reputation as an expert in physical diagnosis, it is scarcely necessary to add that the work constitutes a sound and thoroughly satisfactory guide in the subjects of which it treats. It includes the consideration of the regional anatomy of the chest, the methods of physical diagnosis, the chest-sounds in disease, synopsis of acute bronchitis in adults, capillary bronchitis, chronic bronchitis, asthma, pleuritis, pneumonia, influenza, pulmonary phthisis, the examination of the heart in health and disease, the various cardiac affections, and aneurism of the thoracic aorta. Probably in no other book of the same size on this department of medical science, can so large an amount of information, set forth in such a conspicuously clear manner, be obtained; and it will be cordially welcomed by both students and practitioners.

PRACTICAL SURGERY. Including Surgical Dressings, Bandaging, Fractures, Dislocations, Ligature of Arteries, Amputations, and Excison of Bones and Joints. By J. EWING MEARS, M.D., Lecturer on Practical Surgery and Demonstrator of Surgery in Jefferson Medical College, Professor of

Anatomy and Clinical Surgery in the Pennsylvania College of Dental Surgery, Surgeon to St. Mary's Hospital, etc., etc. With 490 Illustrations. Philadelphia: P. Blakiston, Son & Company. 1885. Pp. 794. Cloth, $3.75. Sheep, $4.75.

In this second edition of Dr. Mears' excellent manual, the original text has been revised, while a considerable amount of new matter and a large number of illustrations have been added. Of course, the book is not intended as a complete treatise on surgery but it is truly *multum in parvo*; and while the subjects are presented in a condensed form, it is the design that nothing shall be omitted which might be deemed necessary to render the instruction complete. Taken altogether, it is a work of very great practical value.

It is noticeable that the author mentions with approval the old plan of treating compound fractures of the bones of the leg by placing the limb in a fracture-box and surrounding it with coarse bran. Of this method Dr. Stephen Smith, in his paper read last autumn before the Academy of Medicine, on the "Comparative Results of Operations in Bellevue Hospital," said: "The fracture-box, with its bed of bran or sawdust, was regarded as a remarkable advance in the treatment of compound fractures of the tibia. Placed in the box, with the foot fixed to the foot-board, the wound was covered with bran, and suppuration allowed to go on *ad libitum* and *ad infinitum*. The contrivance had no merit whatever. On the contrary, it greatly aggravated the suppuration by fixing the lower fragment, while it allowed the upper fragment to move freely upon it every time the patient moved. The gypsum splint and bandage had the merit of keeping, or aiming to keep, both fragments at perfect rest. This method of treating compound fractures was a real step in advance, but it did not prevent suppuration in some measure. To-day compound fractures are welcomed to the wards of Bellevue as a class of cases which give the most satisfactory results." He then goes on to explain that the method of treatment pursued there, so far as concerns the wound, consists in fully exposing the injured parts by incision, removing all effusions of blood, shreds of injured tissue, fragments of bone, and then wiring the bones together so that the fractured parts exactly fit each other; next stitching together all cut or torn tissues with prepared catgut thread, as far as they can be brought together, then the final closure of the wound, except when a drainage-tube may be inserted into a cavity of the deep parts, and, finally, the external antiseptic dressings, and a light bandage of plaster-of-Paris, and over all a wire-gauze splint for suspension."

In the treatment of fracture of the patella, no mention is made of Lister's procedure of wiring the fragments together, which has of late been practiced with so much success in this city, and Dr. Mears' attention is respectfully invited to the paper on the subject which Professor Frederic S. Dennis read before the New York County Medical Association in October last. In the treatment of fractures of the clavicle, Dr. Sayre's adhesive plaster dressing is described and depicted, but no reference is made to that of Mr. Bryant, which is also very simple and effective; but, of course, in a manual of this kind, the economizing of space is necessary, and a great many pages could be filled with descriptions of the various dressings for this fracture which have been suggested by eminent surgeons. The sections on surgical dressings and bandaging, profusely illustrated with excellent cuts, will be found of great service to students and to general practioners who have become somewhat rusty in such matters.

PRACTICAL SUGGESTIONS RESPECTING THE VARIETIES OF ELECTRIC CURRENTS AND THE USES OF ELECTRICITY IN MEDICINE. With Hints Relating to the Selection and Care of Apparatus. By AMBROSE L. RANNEY, M.D., Professor of the Anatomy and Physiology of the Nervous System in the New York Post-Graduate Medical School and Hospital; Professor of Nervous and Mental Diseases in the Medical Department of the University of Vermont, etc., etc. New York: D. APPLETON & CO. 1885. Pp. ix—147.

This is a course of lectures on electricity in medicine, which the author has prepared for publication in connection with a forthcoming work on diseases of the nervous system, and which have recently been separately published in the *New York Medical Journal.* They constitute a summary of such information as he deems most essential to a scientific and successful use of electricity in medical practice, and are of special interest as setting forth the results of his own clinical experience. While Dr. Ranney naturally does not attempt to cover the whole ground embraced in the larger works on the same subject, and while some of his views are at variance with certain of the best authorities on electro-therapeutics, the book is on the whole a reliable and convenient guide to the study of medical electricity. It is divided into three parts: (1) Electro-physics, treating of the varieties of electric currents and the apparatus employed for their application; (2) Electro-diagnosis, and (3) Electro-therapeutics; and is replete with useful practical suggestions. An extremely brief notice is given of the arrest of extra-uterine pregnancy by electrolysis, but no reference whatever is made to the use of electricity in gynæcology in general; a subject which has been much neglected, but which has of late deservedly been attracting an increasing amount of attention. The text is supplemented by a considerable number of illustrations, and at the end of the volume are appended fourteen plates, after Ziemssen and Flower, to aid in the treatment of morbid states of the motor and sensory apparatus.

TRANSACTIONS OF THE SIXTEENTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA. Held at Alleghany Springs, Montgomery Co., Va., September 15, 16, and 17, 1885. Richmond: J. W. Ferguson & Son, 1885.

The published transactions commence with the able address of the president, Dr. Samuel K. Jackson, of Norfolk, on the "Science of Medicine—the Causes of Its Slow Rise—the Factors in Its Recent High Development—and

What is Needed for Its Continued Growth." Then follows a valuable discussion on scarlet fever, which is opened by a paper by Dr. Thomas J. Moore, of Richmond, the appointed leader in the discussion, and which occupies altogether over sixty pages. The volume is much larger than that issued last year, and contains a considerable number of papers of great merit, several of which have already been published in this JOURNAL. Among them is one by Honorary Fellow George T. Harrison, M.D., of New York, on Puerperal Septicæmia, Especially with Regard to Prophylaxis and Etiology; and one by Honorary Fellow J. M. Toner, M.D., of Washington, devoted to a sketch of the Life of Dr. Elisha Cullen Dick, of Alexandria, Va., One of the Consulting Physicians in the Last Illness of General Washington, the latter being accompanied by a handsome vignette in profile of Dr. Dick. Probably the contribution which will excite the most interest will be that by Dr. Baker Brown, on The Treatment of Laceration of the Cervix Uteri without Operation, in which he reports most remarkable results accomplished by very simple means. The Proceedings contain the names of no less than 105 new Fellows elected during the session, and also the interesting report of the State Board of Medical Examiners, Dr. Wm. C. Dabney, President, the substance of which has already been given in these pages. Altogether the society may well congratulate itself on its excellent volume of transactions.

A COMPENDIUM OF THE PRACTICE OF MEDICINE. By Daniel E. Hughes, M.D., Demonstrator of Clinical Medicine in the Jefferson Medical College of Philadelphia, Fellow of the College of Physicians of Philadelphia. Physicians' edition. Based on the Revision of the Quiz-Compend edition, and including a very complete Section on Skin Diseases. Philadelphia: P. Blakiston, Son & Co., 1886. Pp. 399, morocco, $2.50.

The author states that the favor with which the "Compends of the Practice of Medicine," as published in the Quiz-Compend series, have been received, together with the knowledge that many practitioners have made use of them, suggested the advisability of preparing an edition especially for physicians. To that end the compends have been thoroughly revised and enlarged by the incorporation of the more recent improvements in practice, and the addition of a very complete section upon diseases of the skin, which, with the addition of a complete index and its publication in one volume, renders it much more convenient for reference. Dr. Hughes' system of notes employed in the Quiz room for a number of years have proved the basis of the book, which may therefore be regarded as a full set of notes upon the practice of medicine, and, as stated in the preface, it embodies the results of the latest advances in medical science. As a concise compendium, supplementary to the larger treatises on practice, and as a hand-book for ready reference, it will be found all that could be desired. It is well printed and handsomely bound in morocco, with gilt edges.

MISCELLANEOUS.

Pasteur's Inoculations.—Pasteur's process is thus described in a recent letter from Paris: M. Pasteur's method is based upon the following facts: The inoculation of a rabbit under the dura mater of the brain with the spinal marrow of a mad dog invariably produces madness in the rabbit after the lapse of a period of incubation, the average duration of which is fifteen days. If the poison be passed from the first to a second rabbit, and from this to a third and from a third to a fourth, and so on by the same process of inoculation, a tendency to a shortening of the period of incubation, which becomes more and more marked in each successive case, manifests itself, and by the time the ninetieth rabbit has been inoculated, the duration of the period of incubation is reduced to an average of seven days. These experiments, commenced in November, 1883, and carried on since then without interruption, and without ever resorting to the use of any other virus than that taken from rabbits which have successively died of rabies, has placed M. Pasteur in possession of perfectly pure virus, and as the experiments are continued with methodical regularity, he is always sure of having such virus at his command. This virus is simply the spinal marrow of rabbits which have died mad. A little strip of this marrow, carefully removed in such manner as to secure its perfect purity, will, if placed in a jar containing dry air, lose its virulence little by little until it becomes entirely lost. The length of time that this takes varies a little, according to thickness of the strip of marrow, but what has a marked effect in lengthening or shortening this time is the exterior temperature in which the jar is kept. The lower the temperature, the longer the matter retains its virulence. If the marrow be kept from coming in contact with air by being isolated in carbonic acid gas, it retains its virulence unimpaired for a period of several months. The manner of using the virus thus obtained, for the purpose of rendering dogs proof against rabies in the same way that men are rendered proof against small-pox by vaccination, is as follows: A series of glass jars are prepared in which the air is kept dry by means of small pieces of potash, and in these each day is put a piece of marrow freshly taken from a rabbit which has died mad after an incubation of seven days. Every day the dog is inoculated by injection under the skin with a Pravas syringe full of sterile bouillon, or broth, in which a small fragment of one of these marrows has been mixed, beginning with a marrow that has been kept in a dry jar so long that it can be affirmed with certainty that it is not virulent. The next day the inoculation operation is repeated, but with marrow taken from a rabbit two days more recently than the marrow used the day before. On the third and subsequent days the operation is repeated, each time with a marrow fresher by two days than the one previously used, until finally the operation is performed with an exceedingly virulent marrow, that is to say, a marrow which has not been in the jar longer than a single day, or two at the most. The dog thus inoculated is now, so M. Pasteur claims, absolutely proof against rabies, as neither the injection of the virus under its skin, nor even its introduction into the brain by means of the trepanning process, will give that dog the hydrophobia. "I have in this way," said M. Pasteur, "obtained fifty dogs of all ages, both sexes, and many different breeds, every one of which has withstood every attempt to make it mad, and I have not thus far met with a single exception." The operations on human subjects are performed in precisely the same manner, and with the same virus as that I have just described, excepting that the dose for each inoculation is reduced to half a syringeful.

IT'S AN ILL WIND THAT BLOWS NOBODY ANY GOOD.—*First Tramp:* "Congratulate me, old fellow, I'm going to Paris." *Second Tramp:* "How'd you work it?" *First Tramp:* "Said I was bit by a mad dog. Pop'lar subscription gittin' up to send me to Pastoor."—*Puck.*

AN OLD STORY—It is no new thing for rabid people to go to Pasteur. Nebuchadnezzar went to pasture several thousand years ago.—*Richmond Dispatch.*

VANDERBILT AND THE YOUNG DOCTOR.—The following anecdote has been published in one of the New York papers: A young physician of this city, who had been struggling along in rather an uneasy fashion, was suddenly elated one day, a year or so ago, by a call from Wm. H. Vanderbilt. The young doctor had been a close student, and had won laurels at one of the city hospitals for his surgical work, and in the course of conversation at the Grand Central Depot Mr. Vanderbilt heard the young man's praises, and acting upon a sudden impulse, as was not unusual with him, he went directly from his office down to the doctor's office. He had been suffering for some time from a trouble that many physicians of high repute had treated unsatisfactorily, and now, for the whim's sake, he put himself under the young doctor's care. He was cured quickly, and became an enthusiastic advocate of the young doctor's skill. Many of his friends were sent to the same office, and to-day a big practice, including patients known in the most fashionable circles of New York, enriches the lucky physician whose prospects had been woefully gloomy till the whim of the magnate rescued him from obscurity. But this isn't the point of the story. After it became known that he had treated Mr. Vanderbilt, friends crowded around to explain how he might grow rich. Mr. Vanderbilt was grateful for the cure that had been effected, and all that Dr. X. would have to do, so the acquaintances whispered, was to ask the railroad ruler for a "point" on the stock market, and then through the use of that scoop in a smart little fortune. It was certainly a temptation, for Mr. Vanderbilt had not been backward in his expressions of gratitude. But before he acted on any of these suggestions, he saw Mr. J. Rhinelander Dillon, his personal friend as well as a patient, and asked his advice. "Send in your regular bill," was Mr. Dillon's counsel. "Don't make it one cent bigger than you would to a poor man. Vanderbilt's generous, but he never lets anybody impose upon him. Send in your regular bill; if you try anything else, you'll hurt yourself." The doctor acted on this advice. The bill he rendered was for $50. The check that the next mail brought him was for $1,000.

THE NEW YORK TRIBUNE AS A MEDICAL JOURNAL.—The *Tribune*, being apparently hard up for news, has recently taken to publishing sketches of the brilliant careers, or descriptions of their splendid surgical operations, of some of the rising young geniuses of the profession in this city. These notices vary from a few lines to nearly half a column in length, three or four names sometimes being included in a single brief notice; and this has given rise to considerable surmising as to whether they are paid for by the inch or not.

A GOOD WORD FROM TEXAS.—We will take this occasion to say that those who do not subscribe for GAILLARD'S JOURNAL have *no conception* of what they are missing;—it is a *library* in itself, of the choicest reading, fresh and attractive at all times, and fully abreast of the most advanced ideas.—*Daniel's Texas Medical Journal.*

PROUD OF THEIR OFFSPRING.—The following notice of a birth recently appeared in the New York dailies. It is a wonder that the grateful parents did not publish the name of the attending accoucheur also.

BIRTH.—PURNHAGEN.—Matthias Purnhagan and wife take pleasure in announcing the birth of a fifteen (15) pound boy. The christening will be in about two weeks. Friends are invited.

A MODERN EVE.—The postmistress of the village of Corning, Pa., has been arrested, charged with opening letters out of curiosity and reading them for the purpose of keeping herself posted in regard to the business secrets of her neighbors and the love affairs of the young people of the community.

THE VALUE OF TRAINED NURSES.—The fourteen women who were graduated from the school for trained nurses in New York the other day will probably do more to make life worth living during the next quarter of a century than the class of newly fledged soldiers that was sent forth from West Point last summer with all the pomp and circumstance of their "glorious" profession of war.—*Providence Star.*

PASTEUR STUDYING HYDROPHOBIA.—Biting dogs and bitten dogs fill the laboratory. Without reckoning the hundreds of mad dogs that have died in the laboratory during the last three years, there never occurs a case of hydrophobia in Paris of which Pasteur is not informed. Not long ago a veterinary surgeon telegraphed him: "Attack at its height in poodle dog and bulldog. Come." Pasteur invited me to accompany him, and we started, carrying six rabbits with us in a basket. The two dogs were rabid to the last degree. The bulldog especially, an enormous creature, howled and foamed in its cage. A bar of iron was held out to him; he threw himself upon it, and there was great difficulty in drawing it away from his bloody fangs. One of the rabbits was then brought near to the cage and its drooping ear was allowed to pass through the bars. But notwithstanding this provocation the dog flung himself down at the bottom of his cage and refused to bite. Two youths then threw a cord with a slip-loop over the dog as a lasso is thrown. The animal was caught and drawn to the edge of the cage. There they managed to get hold of him and secure his jaws, and the dog, suffocating with fury, his eyes bloodshot, and his body convulsed with a violent spasm, was extended upon a table and held motionless, while Pasteur, leaning over his foaming head at the distance of a finger's breadth, sucked up into a narrow tube some drops of saliva. In the basement of the veterinary surgeon's house, witnessing this formidable tête-a-tête, I thought Pasteur grander than I had ever thought him before.—*Histoire d'un Savant par un Ignorant, by Valery Radot.*

SMALL-POX CONTRACTED BY A CAT.—During the epidemic of small-pox in Montreal, a cat took the disease from a boy who died of it, and this is said to be the first instance of an animal contracting it. Dr. Labarge relates the case.

REMARKABLE EFFECT OF FUMIGATION.—Two Frenchmen were put through the fumigator yesterday who claimed to be unable to talk the English language, but soon after the sulphur fumes began to warm them up, they expressed in unmistakable terms all the oaths known to the modern Yankee-tongue.—*Nashua* (*N. H.*) *Telegraph.*

VACCINATION BEES.—They have "vaccination bees" in Maine. A young lady gives a party and has a surgeon present who vaccinates all the guests "for the fun of the thing" at the hostess's expense. This amusement should be imported into Montreal. It is not much more painful than the initiatory ceremony at the roller rink, and it is a far more durable amusement than euchre.—*Toronto Mail.*

FIVE OF A KIND.—Mrs Thompson, of Fannin County, Texas, gave birth a few days ago to five children. She is a good Democrat, and has named the children Cleveland, Hendricks, Bayard, Manning, and Chenowith. The fond mother expects that the members of the Administration who have thus been honored will do their best to see that she is remembered. Mr. Chenowith thinks that a pension would be the proper thing for Mrs. Thompson—*New Orleans Times-Democrat.* The *N. Y. Medical Record* has taken the trouble to investigate the correctness of another similar report from Napoleon, O., and discovered that, like a good many other medical yarns published in the daily press, it was decidedly fishy. The actual facts of the case were, that four years ago the mother gave birth to triplets, and recently to twins; but in order to provide a good sensational item the local editor "lumped the aggregate of all the births into one appalling maternal catastrophe."

DR. TOMMASI-CRUDELI ON THE CAUSE OF MALARIA.—Meanwhile Drs. Tommasi-Crudeli and Klebs had been prosecuting their researches into the non-gaseous origin of malaria, which they thought they had found in a "fermentative organism," the so-called "bacillus malariæ," a full description of which they published in their well-known monograph in 1879. Chiefly single-handed, Dr. Tommasi-Crudeli has since elaborated his theory from time to time, and the lectures he delivered in Rome last spring on the climate and hygienic conditions of the city and province embodied the latest touches he has given to it, with replies to the various criticisms it has evoked. These lectures, we are happy to announce, are shortly to appear in a revised form under the immediate care of the author, and will be read with interest, and, we doubt not, with profit by a far wider circle than that to which they were originally addressed.—*Lancet.*

MEDICAL NEWS.

"A DOCTOR'S EXPERIENCES IN THREE CONTINENTS."—Dr. Edward Warren Bey's delightful and entertaining book of personal reminiscences, bearing the above title, has at last appeared, and a notice of the work will shortly be given in the JOURNAL. The publishers are Messrs. Cushings & Bailey, of Baltimore.

NEW YORK ACADEMY OF MEDICINE.—The following officers were elected January 7th: Vice-President, Dr. H. D. Noyes; Corresponding Secretary, Dr. Wesley M. Carpenter; Recording Secretary, Dr. A. M. Jacobus; Treasurer, Dr. W. F. Cushman. A new section on Laryngology and Rhinology has been organized, with Dr. R. P. Lincoln as Chairman and Dr. D. Bryson Delavan, Secretary. The first meeting was held December 23d, when Dr. Lincoln read a paper on "The Surgical Uses of Electricity in Affections of the Upper Air Passages."

A CREMATORY FOR PARIS.—A very fine crematory is to be erected at *Père la Chaise* Cemetery.

ROYAL VISIT TO AN EGYPTIAN HOSPITAL.—The Cairo correspondent of the *Lancet* writes under date of December 1st: H.H., the Khedive, attended by his suite, made an official inspection of Kasr-el-Aini Hospital this morning, being the first time that he has done so since his praiseworthy visits during the cholera of 1883. His Highness was so pleased with all he saw that he sent for Dr. Milton to the palace in the afternoon, and, with many laudatory words, decorated him with the order of the Osmanieh of the Fourth Class. This unexpected mark of approval has given the greatest satisfaction to both Europeans and natives.

FEMALE VACCINATORS.—At a special meeting of the Municipal Commissioners for the town of Calcutta, the proposal of Babu Omirtonath Mitter, approving of the vaccination of native females by females vaccinators, has been adopted.—*British Medical Journal.*

THE MEDICAL TIMES AND GAZETTE, of London, has suspended publication.

DR. JOSEPH A. EYE, of Augusta, has resigned the professorship of obstetrics in the medical department of the University of Georgia, which he has filled for over fifty years, and Dr. W. H. Doughty, Jr., has been elected to fill the chair.—*Atlanta Medical and Surgical Journal.*

A GERMAN AMERICAN JOURNAL has been started in this city under the name *New Yorker Medizinische Presse, Organ der Deutsch Americanischen Aertzte.* Dr. Geo. W. Rachel is the editor.

THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL IN THE STATE OF NEW YORK will hold its first meeting at the New York Academy of Medicine, January 20th. The Chairman, Dr. J. B. Hunter, will deliver an address, and papers by Drs. George T. Harrison, W. Gill Wylie, W. H. Baker, H. C. Coe, and others, will be read.

THE CLEVELAND MEDICAL GAZETTE is the title of a new monthly journal of medicine and surgery to be published at Cleveland, O. The first number is handsomely printed, and contains a considerable amount of attractive original matter. The editors are Drs. A. R. Baker and S. W. Kelley.

DR. AUSTIN FLINT, it will be learned with much pleasure, is to deliver the address in medicine at the next annual meeting of the British Medical Association, which is to be held at Brighton, August 10th, 11th, 12th, and 13th.

TWO PROMINENT PROFESSORSHIPS OF OBSTETRICS VACANT.—Dr. R. A. F. Penrose has resigned the chair of obstetrics in the University of Pennsylvania, and Dr. J. P. Reynolds the same position in the Harvard Medical School.

VITAL STATISTICS OF THE CITY OF NEW YORK FOR THE YEAR 1885.—During the past year there were reported in this city 35,696 deaths, and 35,054 births. While, however, it is positively necessary that every death should be reported to the Health Department, in order that a burial permit may be obtained, a very large proportion of the births annually occurring are unrecorded.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The thirteenth annual meeting of this society was held at Washington, D. C., December 8th, 9th, 10th, and 11th. The annual address was delivered by the President, Dr. James E. Reeves, of Wheeling, West Virgina. Among the papers read were the following: Sanitary and Statistical Nomenclature, by Dr. E. M. Hunt, Trenton, N. J.; Forms of Tables for Vital Statistics, by Dr. J. S. Billings, U. S. A.; Relation of Rainfall and Water-Supply to Cholera, by Dr. H. B. Baker, Secretary of the Michigan State Board of Health ; Small-pox in Canada, and the Methods of Dealing with it in the Different Provinces, by Dr. P. H. Bryce, Secretary of the Provincial Board of Health of Ontario; Impure Air and Unhealthy Occupations as Predisposing Causes of Pulmonary Consumption, by Dr. C. W. Chancellor, Secretary of the State Board of Health of Maryland ; The German System of Physical Education, by Prof. E. M. Hartwell, of Johns Hopkins University ; The Debt and Credit Account of the Plymouth Epidemic, by Dr. Benjamin Lee, Secretary of the Pennsylvania State Board of Health ; and Sanitary Protection of New Orleans, both Municipal and Maritime, by Dr. Joseph Holt, President of the State Board of Health, of Louisiana. Dr. Holt presented a series of resolutions (which were referred to the Executive Committee) urging upon Congress the appointment of a commission for the purpose of thoroughly investigating the subject of yellow fever inoculation. The following of the Lomb prizes were awarded by the committee having charge of the award : A second prize of $200 to V. C. Vaughan, of Ann Arbor, Mich., for his essay on "Healthy Homes and Foods for the Working-Classes ;" a second prize of $200 to Dr. D. F. Lincoln, of Boston, for his essay on "The Sanitary Condition of School-houses and School-life ;" a second prize of $200 to Geo. H. Inland, of Springfield, Mass., for his essay on "Primitive Causes of Diseases, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them ; and a first prize of $500 to Dr. Geo. M. Sternberg, U. S. A., for his essay on "Disinfection and Individual Phophylaxis against Infectious Diseases." The President announced that Mr. Lomb had offered four additional prizes of $100, $75, $50 and $25, for the best plans of houses to cost $600, $1,000, and $1,500. The following officers were elected for the ensuing year: President, Dr. P. Walcott, Cambridge, Mass.; Vice-President, Drs. C. W. Coverton, of Canada, and G. B. Thornton, Memphis, Tenn.; Treasurer, Dr. J. B. Lindsley, Nashville, Tenn. The Secretary's term does not expire until next year. The next annual meeting will be held in Toronto, Ontario, on the first Tuesday of October, 1886.

THE LOUISVILLE MEDICAL NEWS has been consolidated with the *American Practitioner*, and hereafter the two journals will be published together, semimonthly, under the name of the *American Practitioner and News.*

DEATH OF DR. W. W. GOLDSMITH.—Dr. Goldsmith, one of the most prominent practitioners of Louisville, Ky., died November 6, 1885, in the 64th year of his age. He leaves two brothers who are physicians, Dr. Bell Goldsmith, of Illinois, and the distinguished Dr. Middleton Goldsmith, of Rutland, Vermont.

DEATH OF DR. VAN S. LINDSLEY.—Dr. Van Sinderin Lindsley, Professor of Diseases of the Eye and Ear in the Medical Department of the University of Nashville and Vanderbilt Universities, died, after a painful illness of about eight weeks, November 15, 1885.

DR. JAMES P. BOYD, of Albany, has been elected a Fellow of the British Gynæcological Society.

THE DETROIT LANCET.—The name of this excellent journal has been changed to *The American Lancet*, and the subscription price reduced to $2.00 a year; while its general make-up has been greatly improved. Dr. Leartus Conner retains the editorial management.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—The third special meeting of the Fifth District Branch will be held in Yonkers, on Tuesday, March 23, 1886. The Committee of Arrangements consists of Dr. R. J. Southworth, of Yonkers, Chairman, and Drs. J. H. Ashton, Dobb's Ferry, R. B. Coutant, and N. C. Husted, Tarrytown, and H. E. Schmid, White Plains.

DEATH OF DR. ALBERT H. SMITH.—Dr. Albert H. Smith, the distinguished gynæcologist of Philadelphia, died at his home in that city December 18, after a lingering illness. The Albert H. Smith pessary is probably known wherever medicine is practiced by English-speaking physicians.

THE PEORIA MEDICAL MONTHLY.—Dr. O. B. Will has been added to the editorial staff of the *Monthly* as associate editor, and Dr. J. H. Coulter, as business manager.

PASTEUR'S INOCULATIONS.—Pasteur has inoculated in all seven American patients.

DR. JOHN C. FAIRFAX, a practicing physician of Prince George County, Md., is by descent and law the eleventh Lord Fairfax. He is also Lord Camerden. The first title is Scotch, the second an English title. Dr. Fairfax is an American citizen, and does not aspire to such baubles as a hereditary peerage bestows without estates to sustain them.—*New-Orleans Times-Democrat.*

DR. ISAAC G. COLLINS, of Sing Sing, died December 17, aged 53 years. He was born in Greenville, Greene County, N. Y., and was a graduate of Union College and the Albany Medical College. Twenty-one years ago he took up his residence in Sing Sing, and while Henry C. Nelson was Agent and Warden of the prison the doctor was the prison physician. He was a member of the Westchester County Medical Society, and was at one time its President. He was also a member of the New York State Medical Association. He leaves a widow and two sons.

DR. T. S. DABNEY, of New Orleans, has obtained the appointment of Pension Examiner, after examination under the Civil Service rules.

DR. P. O. HOOPER, of Little Rock, Ark., has accepted the position of Chief Medical Officer of the State Insane Asylum of Arkansas, *vice* Dr. C. C. Forbes, who resigns on account of failing health.

THE NEW CROTON AQUEDUCT.—Since this work was commenced some thirty-five laborers have been killed by accidents at the various shafts.

TRICHINOSIS.—During the last few weeks an unusually large number of cases of this disease—some of them fatal—have been reported in this city and in various parts of the country.

THE NEW MANHATTAN HOSPITAL, at the corner of 10th Avenue and 131st Street, New York, has now been opened.

CHINESE CHILDREN TO BE PROTECTED.—The following is an extract from a recent report of the Grand Jury of Sacramento, Cal.: Reliable information was presented to the Grand Jury that there are a number of Chinese female children in this city being forced to undergo the barbarous torture of having their feet compressed. This process, we are told, continues from infancy to 10 or 12 years of age, and is a process sickening in its details. After consultation with the District Attorney, we have concluded that perhaps the best and most effective remedy would be for the requisite number of citizens to form a society for the prevention of cruelty to children, who, under the authority granted by the statute in such cases, could ferret out and put an end to this outrageous custom in our country.

WILL HAVE TO PAY THE PIPER.—The Canadian Government has imposed a fine of $10,000 on the Ayer's pills people for undervaluation of goods. They were in the habit of sending the ingredients of their medicines separate, for the consignees to mix them themselves, and entering the same at the customs as raw material, but the Government insisted on the full duty for the manufactured article.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK will hold its eightieth annual meeting at Albany, February 2, 3 and 4. An unusually elaborate programme of papers and discussions has been arranged.

SQUIBB'S EPHEMERIS.—It will be learned with great regret by all that this attractive and useful little publication, the second volume of which has just been completed, is to be discontinued. The principal reason for this is that Dr. Edward R. Squibb has gone abroad for an indefinite time on a tour of recreation and inspection; and there can be little doubt that the results of his observations and investigations will be seen in the increased purity and excellence of many of the drugs with which this country is supplied from foreign markets. His many friends will hope that his trip may be a pleasant and profitable one in every way, and that on his return the admirable Ephemeris will be continued into a third and fourth and many subsequent volumes.

THE AMERICAN JOURNAL OF OBSTETRICS.—The Department of Diseases of Children, as a distinct feature of this journal, has been discontinued.

THE REPORTING OF CONTAGIOUS DISEASES IN NEW YORK.—A number of physicians have addressed a memorial to the Metropolitan Board of Health, requesting the board to use its influence to secure the passage of an act by the Legislature which will protect physicians who in good faith report contagious diseases against suits for damages in case the disease reported does not prove to be of the character suspected.

CORNELL UNIVERSITY.—The establishment of both law and medical schools at that institution is under consideration.

DEATH OF PROF. JOHN C. DRAPER.—John Christopher Draper, M.D., LL.D., the distinguished Professor of Chemistry in the medical department of the University of the City of New York, and of Natural History in the College of the City of New York, and widely known as a writer upon medical and scientific subjects on both sides of the Atlantic, died after a very brief illness at his residence in this city, December 20.

EDITORIALS.

YELLOW FEVER INOCULATION.—As will be seen by a reference to the proceedings of the American Public Health Association, at its meeting in Washington last month, Dr. Joseph Holt, President of the State Board of Health of Louisiana, introduced a series of resolutions urging upon Congress the great importance of appointing a Commission on yellow fever. In presenting them Dr. Holt made the following telling remarks: "Under the instruction of science we are concentrating in our defence the whole armament of germ-destroying agents; while, under her instruction, Freire and Rebourgeon in Brazil, Carmona and his distinguished pupils throughout Mexico and at Panama, all of them in the nursery and hotbed of yellow-fever, pursuing their researches in the lines indicated by Pasteur, but first by Jenner, are piling up evidence in such irresistible masses, and all with the sanction and indorsement of their respective governments, as to command the hope that our salvation is even now at the threshold. The promises of immunity by the inoculation of the essential germ or agent causative of yellow fever are freely offered us. Every demand of humanity and prudence compels a thorough investigation of this question. To pass judgment *ad captandum* and ignore it without a test would be grossly unscientific and criminally indifferent. As the apostles of sanitation in America, as fellow-soldiers in a warfare against misery and death, I appeal to you in behalf of Lousiana, and of Texas, and of all the States of Southern Atlantic, Gulf of Mexico, and of Tennessee."

The petition reads as follows:

Whereas, The question of immunity from yellow fever is so intimately associated with the social, industrial and commercial growth of Tennessee, the Southern Atlantic and the Gulf States of the Union, as to determine the destiny of Memphis, Charleston, Savannah, Pensacola, Mobile, New Orleans, and Galveston; and

Whereas, A large and accumulating mass of testimony that the power of protecting the unacclimated against yellow fever has been discovered and proven in the inoculation of the essential germ or cause of the disease by methods distinctly formulated and available; these aforesaid declarations and numerous instances cited in corroboration emanating from medical scientists in the biological departments in the highest institutions of learning in Mexico and Brazil, authorized by and bearing the endorsements of the respective governments;

Resolved, That we, the representatives of the Board of Health in the several States of this Union, and we, the officers and members of the American Public Health Association, regarding the question as preëminently a vital issue; as one in its assumptions true or false; and, if true, of incalculable worth, surpassing the computation of many millions of dollars and to the saving of tens of thousands of lives of its own people; that we hereby petition and urge upon both branches of Congress now assembled, to appoint a commission for the purpose of making a complete investigation of and reporting after a thorough examination of the methods pursued, their effectiveness in protecting the unacclimated against yellow fever infection, together with all associated observations and experiments that may be ascertained.

Resolved, That in the aforesaid petition the commission shall be stated to consist of three persons, one of whom shall be of known ability and special attainment in biological research, particularly in the department of microscope investigation and culture of the essential germ or organisms causative of the infectious or contagious diseases. The other two menbers of the commission shall be medical men of recognized ability based upon long and ample experience, competent to give expert consideration to all phases of the symptoms and course of yellow fever in any form wherein the phenomena of the disease may present itself, whether induced in the couse of pestilential invasion or in purposely devised inoculation.

Resolved, That this commission aforesaid shall proceed at the earliest practicable moment to Rio de Janeiro as the first field of its labors. Having completed there its work, it shall proceed to Mexico, and if necessary in the accumulation of testimony, to Panama, Colon, and Havana.

Resolved, That the sum of $30,000, or so much thereof as may be actually required to pay the necessary and unavoidable traveling and other expenses and the salaries of the members of the commission, be appropriated.

Resolved, That the sum of $5,000 shall be paid as a recompense to each member of the aforesaid commission.

The matter was referred to the Executive Committee of the Association, and it is sincerely to be hoped that they will lay it in such a way before Congress that the commission provided for in the resolutions will be appointed. This is a question of much greater importance to the people of the United States than protection against Asiatic cholera, for while the latter menaces us only at rare intervals, the danger from an invasion of yellow fever constantly stares a large portion of the country in the face.

In his letter to Dr. Holt, published in the JOURNAL last month, Professor Gaston says very pertinently: "Observing that funds have been provided by the United States Government, recently, for sending Dr. Shakespeare to Spain, to study the means of preventing cholera, which has not yet invaded our country, it has seemed a fitting occasion to renew the effort to have provision made by our national authorities for a commission to proceed to Rio de Janeiro with a view to afford our Southern ports exemption from a scourge which is more certain in its annual visitation, and no less destructive at times than the much dreaded cholera." Nor, it may be added, is the danger confined to the South alone, as the occasional epidemics of the disease in this and other Northern cities have shown.

The Brazilian Government deserves great credit for the substantial encouragement which it has afforded to the work of yellow fever inoculation, and the results appear to have been entirely satisfactory. During the first seven months of 1885, Dr. Domingos Freire, as he mentions in his letter to Dr. Gaston, performed nearly five thousand inoculations, "the result of which proved an absolute success, for none of those who were inoculated died; whereas over four hundred persons who were not inoculated succumbed to the disease. The inoculated persons dwelt in the same infected quarter, and a great number inhabited the very homes wherein death took place." When a man of the character and position of Dr. Freire makes such positive statements as these, it would certainly seem to be high time that our Government were taking some steps for the preservation of the lives and business interests of citizens who are liable at any time to be exposed to the disease.

In order that our readers may have a better idea of what has been accomplished under the auspices of the Brazilian Government towards establishing the claims of preventive inoculation for yellow fever, and be enabled to form some opinion for themselves in regard to the merits of this discovery, herewith are presented some extracts from the work in which Dr. Freire has published the results of his researches upon yellow fever. These have been kindly furnished to the JOURNAL by Dr. Gaston; the translations from the French, in which the account is written, having been made by Dr. E. Van Goidtsnoven, of Atlanta.

NOTE.—On new experiments relative to the transmissibility of yellow fever and the immunity conferred through the attenuated cultivation of its microbe, performed on animals during the year 1885, by Dr. DOMINGOS FREIRE.

With a view of fulfilling the promise I have made in the course of this work, I have this year endeavored to give conformation to experiments on animals relatively to the transmissibility of yellow fever and immunity conferred by inoculation obtained through cultivation. Although but few, the experiments I have been enabled to perform on animals have been so conclusive as to give an additional force to the evidences which were already obtained. The virulence of the blood noted by us having been fully demonstrated, we determined to use it in order to convince ourselves of the immunity communicated through attenuated cultivation.

We ingested hypodermically virulent blood into six animals, three of whom had been inoculated. The health of the latter never was affected in the least, whilst the other three, now inoculated, were prostrated by an intense fever, rising above 40° (centigrade), lost considerable flesh, and came very near succumbing. If facts have any weight in science, they should be resorted to, and used as direct evidences, in order to convince sceptics of the value of those preventive inoculations which to-day produce such surprising results in their application to the human species.

(*Extracts from the Medical Tribune of Rio de Janeiro*, November 23, 1884.)

EXPERIMENTAL PATHOLOGY.—MICROBE OF YELLOW FEVER.—PREVENTIVE INOCULATION EFFECTED BY DRS. DOMINGOS FREIRE AND REBOURGEON.—In our last detailed account of the Biological Society (*Medical Tribune*, November 16th, inst.,) we gave a synopsis of the discovery made by Dr. Domingos Freire of Rio de Janeiro, of the attenuation, through Pasteur's method of cultivation, of the animated virus of yellow fever and of the vaccinal immunity conferred by the inoculation of this virus on both man and beast. This is an event of such scientific and practical importance that we cannot refrain from proclaiming it, *de novo*, and publishing it in its principal details and obtained results. We are enabled to do this, thanks to the concise but very explicit note which Dr. Rebourgeon has just addressed to the Institute through the courtesy of Professor Boulet. Dr. Rebourgeon has not only taken an honorable part in the application of data thus far obtained, but has entered into the noble mission of popularizing them.

In 1880 Dr. Domingos Freire, Professor of Biology of the Medical Faculty of Rio de Janeiro, in a published account of his scientific investigations, made known the result of his first discoveries respecting the microbe of yellow fever and the use of salicylate of soda as a curative agent. Since then Dr. Freire has never ceased to study that question, with the sole object of viewing it in its true light, in the light of the microbic nature of the fever, of the possible cultivation of the microbe, of its physiological and chemical transformations; and last, of its attenuation. To-day, as the result of a strict and thorough experimentation, Dr. Freire proves contagion beyond a doubt and demonstrates in those afflicted with yellow fever the existence of a ptomaine with well-defined characters. The cultivation of the micro-organism and the artificial reproduction of black vomito, the infecto-contagious nature of the disease, and finally the preventive inoculation by means of a liquid obtained through attenuated cultivation, have been the objects of his researches.

Upon examining the blood of a fresh victim of yellow fever, or better, that of an inoculated animal at the point of death from the disease, one remarks under the field of the microscope, 1st. A considerable number of infinitely small hyaline micrococci; 2d. Cellular shaped bodies the size of which hardly reaches one-fourth of that of a blood-corpuscle; 3d. The same cellular bodies of greater size and opacity; 4th. Large cells assuming an epithelial form, presenting a dark colored appearance, with torn parietal wall through which a considerable quantity of the micrococci above mentioned make their escape. On the other hand, if after having composed a suitable broth and surrounded oneself with all necessary requirements and precautions, one attempts to cultivate the micrococci found in the blood with a temperature of 38° or 39° (centigrade), it will be seen undergoing successive transformations within a few hours, and passing through all the stages we have just enumerated. If the liquid be left at rest, the inferior portion assumes a very dark color. Microscopic observation demonstrates that this sinking material is composed only of cells enveloping the micro-organism brought to its last periods of action. It is further demonstrated by chemical analysis that this cellular envelope is transformed into ptomaine.

It is therefore easy to infer from this series of observations that yellow fever is developed in the blood by the presence of a micrococcus going rapidly through all its phases of evolution and that the dark material of which the vomits and dejections of the patients are composed are simply the *debris* of this same micrococcus rendered toxical through their transformation into ptomaine, and not blood—corpuscles deposited in the form of hemorrhage, as has been claimed.

Encouraged by these successive discoveries and always proceeding by methods strictly and necessarily experimental, Dr. Freire has succeeded in attenuating the virus of yellow fever in a cultivated fluid so as to transform it into a mild virus. For last November (1884) that Macænas of science, the Emperor of Brazil, assisted by the Minister of the Empire and the principal members of the Medical Faculty, wishing to consecrate the work of Dr. Friere, granted the authorization to proceed with the inoculations on the human species. Results did not fail to reward this undertaking, and within four months more than four hundred persons had been inoculated. The phenomena observed subsequent to inoculation do not differ from those accompanying a very mild type of yellow fever, intra and infra orbicular pains, some cephalalgia, anorexia, increased temperature and lassitude. But all these symptoms disappear at the expiration of two or three days, and the patient becomes restored to health. When examined a few hours after inoculation, the blood presents the micrococcus of yellow fever, but it is no longer converted into ptomaine. It is consequently devoid of toxic property, is gradually absorbed, and finally disappears.

Experimentation has thus far failed to determine the duration of the immunity conferred by this preventive inoculation, but that immunity exists *ab initio* is an absolute certainty, as has been demonstrated by most convincing proofs. Amongst our inoculated patients, a great many have been enabled to live in highly contaminated centres, where the population was being daily thinned by the scourge of yellow fever, without being molested in the least.

Moreover, in the course of our experimentation, at a time when under the influence of the high temperature of this country our laboratories were literally invaded by the microbe, we have seen animals recently brought for experimental purposes die within a few hours of yellow fever after being inoculated, whilst hundreds of others previously operated on stood intact this exposure and gave every evidence of perfect health. I would incline to a decision of the question of priority in favor of Dr. Friere, and await other details from him based on experimentation.

PASTEUR'S INOCULATIONS.—From the letter of Dr. Warren Bey it will be seen that Pasteur is opposed to having his methods of inoculation against hydrophobia practiced elsewhere than in his own laboratory, and this seems rather an extraordinary position for a man of his scientific attainments. If his process is really the success he claims, the more widely its benefits are disseminated, the better for suffering humanity. Aside from the expense of a trip from distant parts of the world to Paris, a great deal of time must necessarily be lost in the journey, and it has been asserted by him that it is highly important that too long a period should not have elapsed between the exposure to the risk of hydrophobia and the inoculations. It is possible, however, that M. Pasteur has thought it best to wait until he could positively demonstrate the protective power of his inoculations to the complete satisfaction of the scientific world before giving his consent to their being practiced elsewhere than under his own immediate observation. This positive demonstration, it need hardly be said, yet remains to be made; and there is, therefore, no immediate hurry for the establishment of "virus farms" such as one which, it is stated, has already been started at St. Louis. A dispatch from that city dated December 31st announces that in three weeks, at the latest, patients may be treated there by Pasteur's methods; but it seems highly improbable that a bitten individual would run less risk by not submitting himself to the tender mercies of such inexperienced inoculators. An "American Pasteur Institute" has also been organized in this city, of which Prof. Alexander B. Mott is one of the incorporators, which has for its laudable object gratuitous treatment by the Pasteur system, or such modification or improvement thereof as science may develop. Should Pasteur's alleged discoveries be confirmed, such societies would probably be the means of doing much good to the public; and there can be no doubt that they would be generously supported.

In the meanwhile the "mad dog scare" that has prevailed in northern New Jersey to an alarming extent, and sufficiently in this city to cause the reopening of the dog pound, with its system of "legalized brigandage," is utterly without foundation, although it has been steadily encouraged by some of the newspapers. There has been nothing whatever approaching an epidemic of rabies in the community, and, in fact, it is somewhat doubtful whether a single one of the dogs which have bitten persons have really had the disease.

At the same time, whenever an individual has received a bite from a dog in regard to whose condition there is any question, it seems, with our present knowledge, altogether proper that he should be sent to Paris to have the Pasteur inoculations made; for if the prophylactic efficacy of the process is finally established, he will be satisfactorily protected against hydrophobia, and, in any event, the moral effect can hardly fail to be most excellent. Probably the majority of the cases of hydrophobia reported are of a spurious nature; but as the imaginary disease ordinarily proves just as fatal as the genuine, the desirability of producing this moral effect is very evident. The kind offer of Dr. Warren to use his good offices in behalf of any patient sent to Paris for treatment will, no doubt, be duly appreciated by the profession of America.

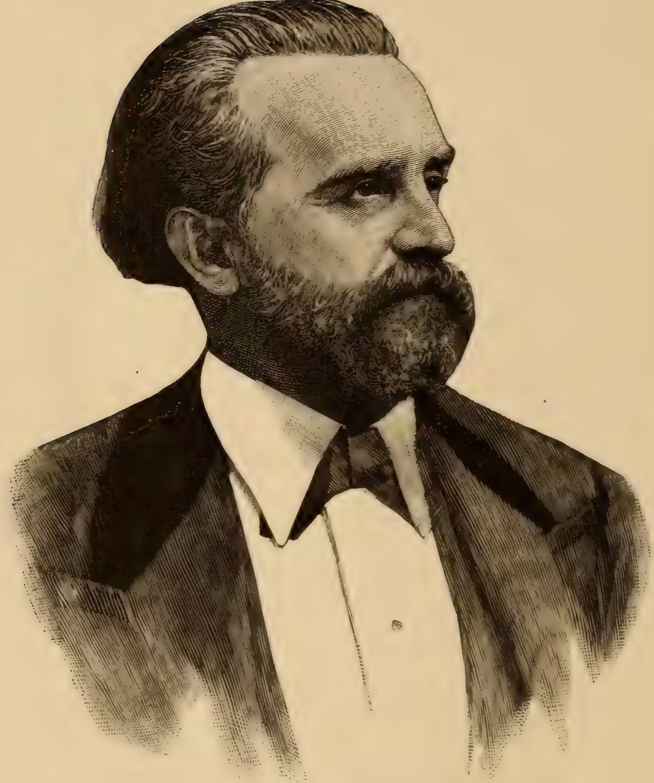
THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.—The collection for the hospitals this season, it is satisfactory to learn, will probably exceed by a considerable amount that of last year, and the Association having the matter in charge is deserving of much credit for its energetic efforts on behalf of the good cause. Already the reports that have been sent in make the sum between $35,000 and $40,000, and many are still to come. In connection with this custom it may be of interest to know that the great triennial musical festival at Birmingham is given in aid of the general hospitals of that city. This festival is always an event of much importance in the musical world, and some of the most celebrated works of the greatest masters have been expressly composed for it. At the last one, which occurred in August, 1885, Gounod's great oratorio "Mors et Vita," and Dvorak's wonderful "Spectre's Bride" were performed for the first time. Its origin is thus described in a letter from Birmingham: Glancing over an old copy of the *Gazette*, dated September, 1768, the other day, I saw the announcement of the first musical festival ever held in Birmingham, the forerunner of the brilliant performances which have since elevated England, musically speaking, before the eyes of the world. For this festival two oratorios called "L'Alegro ed il Penseroso" and Alexander's Feast" were given in addition to the "Messiah" and Handel's "Coronation Anthem," which were to be given. "The music at the church," says the *Gazette*, "is to be opened by a trumpet concerto by Mr. Bond." The performances on this occasion were very successful, the gross receipts amounting to £800. The Countess of Dartmouth and the Countess of Aylesford "very obligingly stood to receive at the church door." The origin of the Birmingham Festivals was a desire to support the General Hospital, which had thus been erected by subscription, and which numbered among its founders no less illustrious names than those of the Earl of Dartmouth, the Earl of Aylesford, Sir Charles Mordaunt, and Sir Henry Gough. The funds of the institution were in such a wretched condition in 1768 that the secretary's salary, which was the princely sum of £10 a year, had not been paid. It was absolutely necessary that something should be done—the something resulted in the first Birmingham Festival. Since 1768 the receipts of the Birmingham Festival have been poured with triennial regularity into the coffers of the General Hospital and the gross receipts since the organization of the festivals in 1768 have amounted to nearly £300,000 ($1,500,000).

THE INTERNATIONAL MEDICAL CONGRESS.—"It may be accepted as certain by our American brethren," says the *Lancet*, "that we look with the deepest interest on the progress of the negotiations for holding the Congress, and that we are most anxious for their success. Any breach in the continuity of the series of Congresses would be a misfortune for the medical profession of the whole world, and would constitute a heavy responsibility for the particular country which occasioned it. A practical and hospitable nation like that of the United States is not likely to set the example of failure in a cause so great and hitherto so continuously successful." This is the way that it is beginning to strike a good many people in this country. The tone of those who have taken the most active part in the bitter warfare of words which has been waged for the last few months has become more moderate, and it seems altogether likely that the efforts at conciliation which have been made will be crowned with success. In the meanwhile the Executive Committee has gone on steadily and quietly with its work, and it is announced that the preliminary organization is at this time nearly complete. The country is pledged to entertain the Congress, and the more successful the meeting can be made, the greater the honor, of course, that will be reflected on the American profession. It cannot afford to suffer this disgrace of failure.

THE HEALTH DEPARTMENT OF NEW YORK.—There can be no doubt that the Board of Estimates and Apportionments have made a grave mistake in cutting down the appropriations for the Board of Health for 1886, from $469,758 to $319,800. While the affairs of the department have not, perhaps, been as well managed as some might desire, this apparently unnecessary reduction seems likely to seriously impair the efficiency of the Board. Already a considerable number of experienced and competent sanitary inspectors and other officers have been discharged, and the salaries of the entire force in its service have been lowered; while it is announced that on account of the lack of funds for their payment, no extra corps of physicians for house-to-house visitation among the tenement population can be appointed next summer. During the past few years the work of this supplementary body of inspectors has proved of essential service in lessening the enormous infant mortality of the city in the hot season; the principal reason for this being, no doubt, that the physicians while visiting the poor in their own homes were often enabled to treat successfully incipient cases of diarrhœal disease, which would otherwise have been allowed to go without medical assistance until too late.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—In emulation of the good example set by the energetic young State Medical Association in providing programmes of such remarkable scientific interest for its first two annual meetings, the managers of the venerable State Society have felt it incumbent upon them to go and do likewise; and have lately issued an announcement of a very long list of papers, many of them by eminent men in the profession, and including one contributed by Mr. Lawson Tait, of Birmingham, for their annual meeting at Albany, which takes place the first week in February. The war of the Codes has, at all events, been instrumental indirectly in stirring up the physicians of the State to unusual scientific activity.

TO OUR READERS.—It will be observed that the size of the JOURNAL is a little smaller this month than heretofore. The change has been made by simply reducing the width of the margins, the size of the printed page and the amount of matter contained remaining precisely the same; and it has been done in accordance with the suggestion of a number of subscribers who have found its former dimensions somewhat unwieldy.



Very Sincerely Yours,
E. S. Gaillard

GAILLARD'S MEDICAL JOURNAL.

Vol. XLII. NEW YORK, FEBRUARY, 1886. No. 2.

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ARTICLE I.

THE BROMIDES; THEIR PHYSIOLOGICAL ACTION, THERAPEUTICAL AND TOXIC, ALONE AND IN COMBINATION. By WILLIAM B. HAZZARD, M.D., PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE AND OF CLINICAL MEDICINE, ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS; FORMERLY SUPERINTENDENT AND PHYSICIAN TO THE ST. LOUIS INSANE ASYLUM, ETC.

The evil effects of the preparations of opium in arresting secretion and in the formation of a vicious habit that interferes with every rational interest in life had long been recognized, but no efficient substitute for this great anodyne and hypnotic had been discovered before the close of the first half of the present century. It may, therefore, be claimed with justice that the introduction of the bromide of potassium into therapeutics marks an era in the history of medicine. This was done by M. Puche, at the Hôpital de la Pitiè, Paris, as described in the theses of Drs. Huette and Rames, in 1850.

Its most remarkable effects, in the treatment of epilepsy, were not known, however, until May, 1853, when Sir Charles Locock, President of the Royal Medico-Chirurgical Society, reported to that learned body his remarkable success with it in a case which he had then had under treatment for more than a year. Before that time no certain means had been discovered with which to mitigate the horrors of convulsive epilepsy. The vast majority of such cases refused to be even relieved by the farrago of remedies and variety of surgical procedures until then devised.

The potassium salt, for a long time, was considered the only effective one, and great importance was attributed to the metallic element of the compound. It has, however, been demonstrated that it is the bromine which produces the desired effects. In fact, Hammond and others have obtained the characteristic sedation of the entire nervous system, which marks the physiological action of the metallic bromides, from the use of a solution of pure bromine in water. The irritating and corrosive properties of this element in its pure state, to say nothing of its extremely disagreeable odor and taste, effectually bar its employment when it becomes necessary to introduce much of it into the system and to sustain its action for a considerable time.

As before intimated, the peculiar action of bromine and of the bromides as such, is exerted upon the entire nervous system: ganglionic cells, fibres, and nerve endings; at first and most markedly upon the motor mechanisms. These agents depress and finally abolish all motor activity, operating first upon those cortical centres which have to do with volition, afterward benumbing, and, finally, abolishing the reflexes; those connected with respiration and circulation being the last to submit. All this takes place without any preliminary excitation of these centres. Hence it is difficult to understand why Professor Bartholow should class the bromides with those agents which first stimulate and subsequently depress, and finally abolish the functions of the brain and spinal cord. The few cases which exhibit signs of excitation soon after administration of these drugs are clinical curiosities. Most probably the excitement in these cases is due to some factor that has escaped recognition and record. At all events, there is insufficient evidence of this action of the bromides to base upon it a formal classification.

The mechanism of the general nervous sedation, which everyone recognizes as the outcome of the full action of these preparations, is still under discussion. Stillé and Maisch, in the recent edition of their most valuable National Dispensatory, intimate that this effect is due to the production of a contraction in the arterioles and capillaries of the brain and spinal cord, and cite some experiments of Mary Putnam Jacobi in support of this proposition. Lauder Brunton (Pharmacology, Therapeutics, and Materia Medica) has shown the fallacies of the experiments alleged to show this action, while the following seems to me to effectually demolish any semblance of a foundation for such a hypothesis:

The first step in the production of a convulsion is anæmia of the brain, or at least a considerable portion of it. Now, the bromides hinder the occurrence of convulsions in most cases. If their action produces anæmia of the brain, they should hasten the advent of convulsions—not prevent or delay such action. It is true that when an animal is poisoned by excessive doses of these agents, in some instances convulsions do precede death. This is true particularly of the potassium salt. The way in which such convulsions are produced is this: The heart's muscular substance is directly poisoned, the blood can no longer be sent through the pulmonary circulation with sufficient celerity, it becomes venous from defective aëration, and the convulsive centre in the medulla oblongata is consequently excessively stimulated. Asphyxia results, and convulsions occur, as from asphyxia from any cause. When the functional activity of any organ is lessened, less blood is called for, and less is sent to it. Therefore it is to be supposed that an anæmia of the brain—comparative to the normal condition of its circulation—is one of the consequences of bromide action; not the peculiar and typical cause of the effects witnessed after their administration.

The necessary changes induced by these agents are within the molecules of the nervous substance. Hydrocyanic acid causes a sudden cessation of molecular interchanges, and, consequently, in the production of nervous energy. This occurs in the ganglionic cells of the entire central nervous system. After the same fashion, the bromides arrest the same form of action in the same localities, but in a slow, constant, and manageable manner.

The bromides differ in action among themselves. In some of them, the effects belonging to the element with which the bromine is combined are very apparent. In others, the irritating or corrosive action of the bromine predominates, limits the dose and restricts the therapeutic application of the compound. In others, still, the chemical union is so feeble that the elements entering into the combination too readily part company, and irritating effects or explosive accidents may be expected.

Thus, the bromides of the non-metallic elements are mostly very unstable, and are of little interest from a medical point of view. The compounds of bromine with iodine—mono, ter, and penta bromides—have been sparingly used; but they are highly irritating, give the specific effects of the iodine preparations in general, and can be replaced by the more manageable iodides. They give the local effects of bromine, but on this account cannot be given in sufficient quantity to produce the constitutional results to be had from the less irritating bromides.

Hydrogen is usually reckoned among the non-metallic elements, but its properties and general behaviour in chemical reactions show that it is, in reality, a gaseous metal. With bromine it forms a characteristic bromide, the well-known hydro-bromic acid. Next to pure bromine, it would seem the most eligible preparation for exhibition when the effects of bromine are sought for, as it contains nearly eighty parts of bromine to one of hydrogen. But it is a gaseous compound, possessing highly corrosive properties even when largely diluted with water, in which it dissolves with great facility. As Dr. Squibb has said, " A dose of fifty grains (of the concentrated solution in water) requires not less than eight fluid ounces of dilution, which must contain not less than an ounce of sugar or two ounces of syrup to make it drinkable." At least one-half this amount must be given if any direct effects are to be obtained from its use. It will prevent the occurrence of cinchonism, if given in efficient doses along with quinine, but frequently fails because given in too small doses. One of the other bromides is usually preferable, because of less bulk of the menstruum being required, and absence of the disagreeable " setting on edge " of the teeth occasioned in most persons by the use of large quantities of the acid. Hydrobromic acid has much the same effects as the other bromides, but the disadvantages mentioned will always restrict its employment. Strangely enough, some observers claim that its use in epilepsy is without benefit and even injurious.

Arsenic bromide *in solution* has been warmly recommended by Clemens, of Frankfort, as a specific in diabetes mellitus of neurotie origin. While there is no doubt at all about the good effects obtained from arsenic and the bromides when used conjointly in this affection, there is every reason to believe that such a *combination* in solution is impracticable. An arsenic bromide is easily enough obtained, but it is resolved into hydrobromic acid and ordinary white arsenic as soon as it is brought in contact with water. The logical method of obtaining the effects desired is to give full doses of some preparation of arsenic of known strength, and at the same time, or alternately with it, that one of the bromides which experience has shown is easily tolerated by the patient. To my own knowledge this is a most effective method of treating this ordinarily intractable affection. It seems especially applicable to cases of diabetes occurring in young individuals, and in those who have shown no tendency to obesity when they were in ordinary health.

Zinc bromide offers no advantage over the oxide or sulphate. Like all the zinc preparations, it is effective in a very small proportion of cases of epilepsy. Its value depends very evidently upon its metallic constituent, as it cannot be given in doses sufficiently large to insure its specific action as a bromide. Theoretically, such a compound of anti-epileptic remedies ought to be very efficient, but practically it is found wanting.

The bromide of iron is a most unphilosophical compound, as the effects of the two elements in epilepsy are undoubtedly antagonistic. In practical application, it exerts all the irritating effects of bromine itself; consequently it cannot be used as a substitute for the more manageable bromides, if it were desirable to combine the therapeutic properties of the two elements. As a ferruginous tonic it is not to be compared in efficiency with combinations of iron with the organic acids, or with the corresponding chlorine compounds. In fact, it is practically useless, except in the preparation of the other bromides.

Bromoform (tribromomethene) and ethylic bromide are similar in their effects to chloroform aud sulphuric ether, and fully as dangerous; in fact, they possess no advantage in any way over the preparations in ordinary use. Monobromated camphor produces no effects which are not as well, if not better, obtained from the camphor alone. As a depressor of sexual excitement it has not sustained the claims of its first advocates.

Magnesium bromide is too unstable for convenience in prescribing, it being decomposed partially before its crystals can be formed by evaporation. It is, however, an important constituent of the water of the celebrated spring at Kreuznach, Prussia, and of some of the West Virginia springs. It, with the calcium salt, furnishes most of the bromine of commerce, as it is found in sea water, and that of many springs, and the ashes of marine plants.

Calcium bromide is stable in its composition, freely soluble in water and alcohol, and its solution is not particularly disagreeable to the taste. It is easily tolerated, and produces the characteristic bromide effects with promptness and certainty. It is especially useful in all cases requiring the use of calcareous preparations in their management. Hammond has found it especially applicable to hysterical cases, and to the treatment of epilepsy occurring in infants. It seems probable that the calcic element, which forms twenty per cent. of its mass, may endow this preparation with some very desirable qualities not possessed by the other bromides. Lime is a very essential element in the food, being especially necessary in that provided for children, while it is more frequently lacking in the diet of hand-fed infants than is commonly supposed. It must be furnished if the body is to reach any ordinary degree of perfection in growth or development. The hysterical woman is usually a half-starved creature, living on a diet of sugar and bread made from superfine white flour, from which the lime has been to a great degree removed. They are "flour eaters," to use Dr. Ephraim Cutter's expression to signify this form of mal-nutrition. One reason that the calcium bromide proves so suitable for hysterical and rachitic subjects may be found in the fact that it furnishes a supply of this indispensable material in a not especially disagreeable form, combined with the bromine which is needed to quell nervous irritability. It contains one-sixth more bromine than the bromide of potassium; hence its unusual hypnotic power when compared with that preparation. It is the best of the bromides of the metals of the alkaline earths, and is a formidable rival to those of the alkalies next to be considered.

Potassium bromide is the best known and most thoroughly tested of these preparations. Composed of nearly two parts by weight of bromine to one of the metallic element, it is very effective in moderate doses in producing the typical bromide manifestations. Potassium, like sodium, calcium, and lithium, being one of the normal constituents of the body, it is usually tolerated for a considerable time without grave deleterious results; still, like all the potash salts, the limit of tolerance is reached earlier than with some of the compounds just enumerated. It is very certain that the extreme depression of the heart's action and general muscular weakness, so often observed when it has been given a long time in very large doses, are to be mostly referred to the potassium it contains, and not to the bromine. Sometimes this peculiar depressing effect upon the heart and muscular system generally is one of the chief ends sought as in maniacal attacks, especially those of epileptic origin. In these, the other bromides cannot take its place. In all other conditions this action should be modified by admixture with compounds which do not posssess this quality, or these should be substituted for the potassium salt. When no one of these can be obtained, a combination with belladonna or hyoscyamus will, for a time at least, correct the direct potash depression.

Sodium bromide is preferred by many to the potassium salt, because of its less offensive taste, because it does not produce an acneform eruption, and because the peculiar toxic effects known as bromism are less speedily brought about by its use. It is somewhat less effective as an anti-epileptic drug, but it may be taken for a long time with the greatest benefit if combined with some of the more soluble bromides. It requires a larger quantity of water or alcohol for its solution than the other effective bromides, but this can scarcely be the sole reason that its effects in epilepsy are less pronounced than the others. This may, however, be one of the elements in lessening its activity in this direction. It is best given in combination with the potassium, ammonium, calcium, or lithium salt, or with them all. When thus combined it proves just as efficacious as the other constituents of the combination, while it lessens the cost, and does not add to the repugnant taste of the mixture.

Ammonium bromide is acrid and disagreeable to the taste, and is especially prone to produce an eruption upon the skin. It does not, however, depress the action of the heart, and it renders the action of the other bromides more energetic when combined with them. Therefore, it should not be administered by itself in large amounts or for long periods, except in cases in which the effects of cardiac sedation are to be avoided. In moderate doses, it seems to have a soothing effect upon the skin, instead of causing irritation, as it does in large doses. It may be given to lessen the annoyance in some forms of pruritus. It is best given in combination with the other preparations of the same class, to secure a stronger and more immediate impression than could be obtained from the same dose of them if given without the ammonium compound. Aromatics or bitter tonics should be given along witht it to diminish the disagreeable taste of this salt.

Lithium bromide is the ideal compound of this class; It is the most soluble of the bromides, dissolving in a little more than half its weight of water, at the freezing point. It does not depress the heart; has very little tendency to cause erutions and ulcerations of the skin; contains an immense proportionate amount of bromide—79.8 parts to 7 of the metal, and induces sleep with smaller doses than any of the similar preparations. As Dr. Weir Mitchell pointed out as long ago as 1877, it is, in every way, the most valuable of the bromides. The high price demanded for it has, no doubt, greatly restricted its employment in medicine, especially in charitable institutions to which such a large proportion of epileptics eventually gravitate. It should be remembered that the salts of lithium, unlike those of potassium, are not destructive to the tissues. Like those of calcium and sodium, they are normal constituents of the body and seldom, if ever, hurtful to it. It may consequently be given for long periods and in effective doses.

Bromine combines with all the metals, but many of the compounds which I have not mentioned are insoluble and inert; others possess interest only to the theoretical chemist. From their rarity and enormous price they can never enter into the armamentarium of the practical physician.

Having pointed out the peculiarities of the different medicinal preparations of this class and noted the special applications of some of them and the objections to the use of others, I shall now give, in brief, the results of nearly twenty years' experience with these preparations in practice.

The peculiar sedative effects of the potassium bromide were discovered by accident. In the endeavor to find a substitute for the expensive iodide of potassium, extensive experiments with the bromide were made by the physicians to the Paris hospital. These were found without any effect in dissolving gummatous growths, but all forms of morbid sexual excitement were allayed by their use. The bromides continue to keep up their reputation in this regard. They induce a condition approaching local anæsthesia in the mucous membrane not only of the genito-urinary tract, but in the pharynx and larynx as well. From these observed effects, it has been deduced that they ought to prove useful in seminal losses which are so frequently brought to the notice of physicians. But, in my own experience in treating such cases, I have been able to secure very little success except in cases where the trouble depended upon a condition of actual congestion or inflammation of the lumbar region of the spinal cord. In most of these cases there is atony of the cord from over-stimulation; these do not bear the bromides well. Atropia is much more effective. In irrepressible masturbation among the insane, the bromides do little good. In fact, I know of no form of medication that will suppress this disgusting condition. Perhaps methodical local treatment with a solution of cocaine would prove effective. As an aid to the suppression of this pernicious habit when the patient is anxious to overcome it, the bromides are of essential service in rendering the victory, which is in reality a moral one, more easy of attainment. In these, as in every medical case, each individual must be made the object of special study. Otherwise there can be no hope of therapeutic progress. Too much must not be expected from the action of any drug as such; the individual hygiene requires as much attention as the administration of remedies. Mental and moral influences are to be included as well as the physical surroundings.

Chordee and moderate degrees of priapism are relieved by the bromides, but when the latter becomes extremely marked they are of little effect even when pushed to the utmost.

Dysmenorrhœa, especially if accompanied by ovarian hyperæsthesia, is almost always relieved by a combination of sodium and ammonium bromides. The addition of belladonna or hyoscyamus adds to the efficiency of the treatment. It is only in extremely rare cases that obstruction exists from narrowing of the internal *os uteri.* Of course, if this be present, operative interference is demanded. It will be found that the trouble can be removed without any dilatation or cutting operation in most cases. Imperfect development of the ovaries, from precocious excitement of the emotions, from overworking the brain in school during the development period, or from the deleterious effects of the infectious diseases, especially scarlatina, as pointed out by Lawson Tait, is responsible for a very large proportion of cases of dysmenorrhœa. The bromides, properly combined, as before indicated, will do more to relieve such patients than the most elaborately contrived pessary or gynæcological operation, if removal of the ovaries be excepted. Spaying relieves cases that do not respond to medical treatment and seems to be the only operation that is really effectual. Pessaries, dilatation of the internal *os*, applications of caustics, astringents, and anodynes, &c., may serve to amuse the patient and fill the gynæcologist's purse, but do very little real good in this class of cases.

Insomnia, the precursor of insanity and the plague of American business life, is best relieved by the bromides. That they are not always effective is freely admitted. The reason for their failure is generally to be found in lack of attention to the peculiarities of the individual case. In delirium tremens, for example, ounce after ounce of the bromides may sometimes be given without inducing sleep. In such cases nourishment is urgently demanded, and should precede treatment by drugs. The bromides are not the only hypnotics which fail because of inattention to this point. Opium or morphine is too often given until the patient dies from cardiac exhaustion before sleep is obtained. After effective alimentation is secured, or before the outbreak of the most pronounced symptoms, the bromides are the best agents to calm the terrible nervous irritability. Congestion of the brain, due to over-use of the mind, which is common enough among students and professional men, is most rapidly relieved by the bromides. If the potassium salt alone is used, the depression of the heart arising from the potash is apt to leave after it a condition of low spirits that detracts much from the beneficial results. This is, to a great degree, avoided if a combination of the ammonium and lithium salts, with or without the potassium bromide, is employed. Although the bromides have no direct effect in lessening the calibre of the arterioles and thus preventing the access of blood, yet, by reason of their slowing the processes of tissue metamorphosis, they are in the highest degree valuable in this condition by lessening the ability of the structures to make use of the blood that is sent to them ; hence, the attraction for it being prevented, after a short time the supply is decidedly diminished, Thus, the sleepless individual is not *compelled* to sleep, as he is by chloral or opium, but is permitted to fall into a natural slumber, if the surrounding conditions are otherwise favorable. One grand advantage possessed by the bromides alone among hypnotics is that there is no tendency to the formation of an appetite for them. The slavery of the victims of alcohol, opium, chloral, hashish, chloroform, ether, tobacco, and cocaine is too well known and dreaded to require more than a passing reference in this place. Nothing of the sort is known to arise from the use of the bromides. Not so powerful in anodyne effects as opium and its preparations, not so certain as hypnotics as chloral, the bromides are so certain and so efficient in their action as to substitute those powerful and dangerous drugs in the vast majority of cases. The grave responsibility of the physician in prescribing them, especially in chronic conditions, is too often disregarded, and the consequences are too frequently disastrous in the extreme.

These preparations have a very marked action as local anæsthetics upon the mucous membrane of the pharnyx and larnyx, whether given in full doses as an internal medicine or applied directly to the surface in solution as a spray. Hence they are of great value in throat affections in relieving painful conditions, in rendering the parts tolerant of manipulation, and in relieving spasmodic cough of laryngeal origin. They are not so efficacious in the cough of phthisis or of deep-seated lung affections, as they diminish the power of the respiratory muscles to some degree, although to no such extent as the opiates. Attacks of spasmodic asthma are frequently prevented by full doses, while the attack itself, if not of great severity, will soon yield to the influence of these preparations. Vomiting, if connected with catarrh of the pharynx, such as that which is so annoying in phthisis and in chronic alcoholism, is often very effectually quelled by their use. The obstinate vomiting of pregnancy is sometimes cured by full doses, one drachm to a drachm and a half, if given by the rectum. The worst cases, of course, do not respond to this form of treatment, but require full doses of cocaine, by hypodermic injection, as recommended by Prof. J. K. Bauduy. The dangers of the formation of the cocaine habit are to be guarded against by not permitting the patient to know what drug is being used.

Summer complaint of children, when the vomiting and diarrhœa are due to morbid irritability of the gastro-enteric mucous membrane, and not to the presence of micro-organisms, is often relieved by full doses of the bromides. It may be necessary to first secure tolerance of these drugs by giving a few minute doses of calomel, which not only clears out all irritating *débris* of food and septic organisms, but exerts a sedative effect upon the stomach, thus permitting the retention of food and the bromides. Children bear larger does of these drugs, proportionately to their age, than adults. Combined with a carminative, like anise water, they form the best " soothing syrup " for infants that has ever been devised. The dose must be large to be effective. Disregard of this fact has caused disappointment. The irritation of teething is said to be relieved by the local application of these preparations, mixed with honey, to the swollen gums. Given by the stomach in effective doses is a better mode of attaining this result. This may be, perhaps, because errors in diet are more commonly the cause of the troubles sought to be alleviated than the teeth, which are often blamed for events they are innocent of causing.

Nocturnal incontinence of urine in children, depending upon a morbid irritability of the bladder or of the mucous membrane of the glans, is best relieved by full doses of these drugs. Circumcision or other surgical procedures may be necessary to effect a cure, but the hyperæsthesia is temporarily—sometimes permanently—lessened by the bromides.

Chorea, especially that of pregnancy, is usually rapidly alleviated by the same salts. The intense nervousness, sleeplessness, and palpitations are generally relieved by them, even if the full cure requires the exhibition of arsenic and iron in addition.

Tetanus of traumatic origin has been cured by the bromides in a few instances, but this disease calls for rapid alleviation, and chloral, with or without curare by hypodermic injection, is more prompt in suppressing the active symptoms. There is evidence that arsenic in the largest medicinal doses, with the bromides, has effected a cure in each of several desperate cases. My colleague, Professor Algernon S. Barnes, is the author of this treatment. The late Professor J. T. Hodgen thoroughly tested it with satisfactory results. The arsenic is, no doubt, the principal agent in securing recovery, but the bromides secure sleep and relief from restlessness; hence they are invaluable adjuncts to the arsenical treatment of tetanus.

But the grandest therapeutic triumphs of the bromides have been achieved in the treatment of epilepsy. It is in the convulsive and maniacal attacks of this disease that the most brilliant results have been obtained. Those of *petit-mal* or vertigo are not relieved by them to the same degree. Occasionally, vertigo ceases under their administration, but they are not to be relied upon with anything like the same certainty in this as in the convulsive form.

The first event in all epileptic manifestations is a spasmodic closure of the arterioles of those portions of the brain which have to do with consciousness and the intellectual operations. This is a vaso-motor disturbance, probably due to an irregular and excessive discharge of force developed in the supreme vaso-motor centre located in the medulla oblongata. The parts of the brain affected by the spasm of the arterioles seem to be those which are supplied chiefly by blood from branches of the internal carotid. There is a sudden pallor of the face, especially of its upper portion, and dilatation of the pupils. The effect of this spasm is to prevent the flow of blood through the carotid system of vessels. Consequent on this, there is an increased supply sent through the two vertebral arteries to the base of the brain, and more particularly to the medulla oblongata.

The convulsive centre is in close relation, anatomically, with that exerting paramount control over the blood vessels. This is immediately supplied with an enormous amount of blood, and with it of nutritive material. When it is thus irritated beyond a certain point, convulsions, general or partial, must inevitably result. The respiratory and cardiac centres are simultaneously irritated with that producing convulsions. Respiration is interfered with; the muscles performing the work of breathing are disordered in action, and the flow of blood towards the heart is interfered with until intense passive congestion of the face and brain succeeds the first state of pronounced anæmia.

There are several ways of reaching the morbid condition which starts the train of morbid events. We may remove the influence of the vaso-motor centre by the constant administration of nitro-glycerine, nitrite of amyl, or other nitrites, which are transitory in their effects, and require special care in their administration. We may, like Alexander, of Liverpool, ligate both vertebral arteries, and thus prevent the sudden enormous flow of blood to the convulsive centre. But this is a surgical procedure not devoid of the dangers of producing paralysis and softening of the parts supplied with nourishment by means of these vessels. Another and most practicable method of breaking up this combination of pathological events is to lesson the irritability of the vaso-motor centre in such a way that it cannot generate excessive amounts of energy, and be unable to explode or discharge this force in an irregular and disorderly manner. This is what is accomplished by the bromides better than by any other form of medicinal preparations known. Why they do not prevent the slighter forms of vasal spasms, as well as the more severe ones, cannot be explained with our present knowledge.

The bromides may be given in epilepsy, singly or in combination, the latter way by preference. I believe it was Brown-Séquard who first pointed out this fact many years since. Why a combination is more effective and more easily borne is susceptible of a variety of explanations. The more plausible one, it seems to me, is this: The potassium salt has been given to most patients; as heretofore pointed out, the potash depresses the heart, and the salt itself has a debilitating effect upon the entire muscular system. When given for a considerable time it induces its full toxic effects very surely. Now, when the sodium, lithium, or ammonium salt is substituted for a part of the potassium preparation, just so much of the latter ceases to enter the system and to produce its characteristic effect. Again, the ammonium bromide, although not depressing the heart, does bring out an eruption upon the skin. Although it renders the other more energetic, it does not prevent bromism; therefore, the staggering gait, muscular weakness, and eruptions were for a long time considered bad results inseparable from the production of the benefits expected from the use of the bromides.

The sodium bromide, evidently weaker than that of potassium, when combined with the latter, necessitated the use of more of both than was required of the potassium salt alone. A combination with the very active preparations of calcium and lithium with the others keeps the dose small, lessens the cost, secures the best therapeutic effects, and diminishes the risks of severe bromism to the minimum.

In the treatment of epilepsy, the first thing to be done is to secure a trustworthy preparation, one that is chemically pure; then insist upon the regular administration of the medicine. This is of the very highest importance. One or two days of neglect in introducing the drugs into the system will undo all the good secured by months of treatment. The bromides should be given in effective doses; an average of fifteen grains three times a day is generally sufficient. They should be largely diluted with cold water; ice-water covers the saline, disagreeable taste better than anything else. If bitter tonics are required, they should be given at a separate time. Iron and quinine are both incompatible, physiologically and therapeutically, with the bromide treatment of epilepsy. If there is much acidity of the stomach, a few grains of alkali-soda, potash, or ammonia-carbonate, should be given with them to prevent the formation of irritating bromates. For the same reason they should be given some time before a meal.

Administered in this way, there is usually very little difficulty in suppressing the attacks of convulsive epilepsy. In some cases, unfortunately too rare, the morbid habit is effectually broken up, and a cure results.

Convulsions from any cause, after that cause is removed, are best treated with large doses of these preparations.

To secure uniformity in purity, in therapeutic power, in composition, and in moderate cost to the patient, I have been recently prescribing, almost exclusively, an elegant preparation known as Peacock's bromides. I have always found it to possess the characteristics named. As its composition is well known to the profession, and the manufacturers are of known integrity, I take pleasure in warmly commending it to my brother practitioners.

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ARTICLE II.

THE INDICATIONS FOR LAPAROTOMY IN PENETRATING SHOT AND STAB WOUNDS OF THE ABDOMEN. Opening Remarks in the Discussion at the Surgical Section of the New York Academy of Medicine, December 14, 1885, by JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Sugery, and Associate Professor of Orthopædic Surgery, in Bellevue Hospital Medical College, New York.

MR. CHAIRMAN AND FELLOWS:

"*Laparotomy should be performed in all cases immediately after the accident.*"

The preceding statement embodies the portion of the important subject under consideration here to-night that has been allotted to me by the chairman. I am unwilling to subscribe myself an advocate, in the full sense of the term, of any assertion so nearly approaching dogmatism, especially when it is made in connection with a means of treatment which as yet cannot be said to meet the approval of the profession at large. He who unconditionally asserts that any operation or method of procedure "should be done in all cases," even though it be a measure accepted by the profession generally, takes a position that requires, in justice to the profession and the patient, that all operators be competent and well equipped for the performance. Particularly is conservatism necessary in the advocacy of an operation, the propriety of which, as yet, is spoken of by many with doubt commingled with dread. But a short time has elapsed since the late Prof. James R. Wood, in this hall, approved the measure, on what appeared, at that time, to be sound practical principles. At least we all remember that his remarks received the general approval of the members of the profession of this and, in many instances, of foreign countries. Marked advancement in all surgical procedures has taken place since that time; still, however, sufficient time has not elapsed, nor are physicians, as a rule, well enough informed on the details of the entire operation, for any one to proclaim boldly, "Laparotomy should be performed in all cases immediately after the accident." Few, indeed, are the hospitals in this city which can, "immediately after the accident," in the accepted sense of the term, offer the recognized theoretical and many of the practical facilities necessary to despatch and cleanliness in operating, to say nothing of other conditions bearing on the success of the procedure. If these facts be true, how much more illy prepared for the performance of laparotomy in any case will the unfortunate patient find the great mass of the members of our profession. It is generally conceded, I think, Mr. Chairman, that when a medical man reads a paper or makes remarks on any special topic of interest to the profession, he not only addresses himself to those who may be present at the time, but also to all others who may afterwards read the published statement of his views. Therefore, for us to-night to place ourselves on record as exponents of a method of procedure that, even in the majority of our great hospitals, many of us are as yet scarcely able, if at all, to meet the entire demands of the case, is to commend to our less fortunate brethren a means that might prove derogatory to their professional reputations, and also relegate this now promising method to the obscurity from which it is but slowly emerging. With the permission of the chairman, I will change somewhat the dogmatic dictum—"Laparotomy should be performed in all cases immediately after the operation," by transposing the first two words so that it will read, "Should laparotomy be performed in all cases immediately after the accident?" This interrogatory can now be divided practically into three parts; first of which is, should laparotomy be performed in any case? the second should it be performed in all cases? and the third, when contemplated, should it be done immediately after the accident?

First: Should Laparotomy be performed in any case?

It cannot be denied that laparotomy, in connection with various abdominal growths, is a fully established operation, and the results attending the invasion of this cavity by the numerous operators of this and of foreign countries attest fully the expediency of the measure in such cases. Still, there has been a time within the easy recollection of many of us, when even the now popular operation of ovariotomy was less favored than is now the subject of this evening's discussion. There is no proof of the fact, so far as I know, that the peritoneum of the male is not as tolerent of manipulations as that of the female. The excellent success obtained by Billroth, Czerney, Rydiger, and many others, so far as immediate results are concerned, from operations on the stomach, pylorus, gall-bladder, spleen, kidney, etc., of both sexes, conclusively shows that intolerance of the peritoneum to manipulations cannot be considered a rational objection to the operation of laparotomy for penetrating abdominal wounds. The time that was occupied in the performance of many of the successful operations on the preceding structures is greater than that required to perform laparotomy for a penetrating wound in its entirety, and therefore the length of time required cannot be urged as a rational objection to the measure. The extent of the raw surfaces made in many of the successful operations on the stomach, pylorus, etc., is far greater than can well occur in connection with laparotomy for penetrating wounds. The following are many of the practical elements that, at the present time, enter into a case of laparotomy for penetrating wonnds that do not exert an equal force in laparotomy for other common causes.

(1.) A *doubt whether the abdominal viscera be injured.* This doubt can exert but little influence, since the signs and symptoms of visceral penetration are as pronounced as those relating to other conditions in which laparotomy is deemed advisable; moreover, an exploratory laparotomy will enable the operator to settle the question of penetration, as it has often before settled matters of doubt in other conditions calling for this operation.

(2.) *Existing Shock.* This element is almost entirely limited to those cases of laparotomy which are to be done for penetrating wounds. This shock is due either to loss of blood, to the injury done the parts, or to both combined. Slight shock always attends penetrating wounds of the abdomen that involve the viscera. I believe it to be an established fact, however, that when severe shock follows immediately after the injury, it is due, in the great majority of cases, to loss of blood; if it be due to loss of blood, the loss should be checked at once, and an exploratory laparotomy will decide this question.

(3.) *Unfavorable surroundings of the patient.* This element, like the second, is limited to a laparotomy for penetrating wounds, and refers, of course, to the surroundings of the patient at the time of the injury, his removal to his home or to a hospital, and also to the absence of proper preparations to operate in accordance with the best recognized methods of procedure in such cases, circumstances which are not met with in laparotomies for other common causes.

It will be impossible to avoid entirely these contingencies, but their dangers can be greatly ameliorated by caution in moving the patient, by taking him to a suitable hospital, instead of to his home, and by a more thorough familiarity on the part of practitioners in general with all the details pertaining to the operation of laparotomy in such cases.

(4). *Unskilled operators.* By this I mean that the surgeon in charge of the case may not have had his attention forcibly drawn to the details of the operation which are recognized as having an important bearing on the prognosis of such cases. And more particularly will he find himself in this position if he have looked on the operation with a disfavor bred of prejudice, rather than founded upon the results of patient toil and observation. This element can be entirely overcome if the members of the profession will but devote an ordinary amount of attention to the subject.

(5). *Greater Exposure of the Abdominal Cavity and its Contents.* The great caution necessary to be taken to find and to remove from the abdominal cavity all the blood and extravasated intestinal contents, to check hemorrhage, and also to detect all the points of injury, requires that the intestines and the omentum be thoroughly examined by a preconceived method, rather than by the rough jostling associated with illogical haste. The time employed and the expense incurred in removing intestinal extravasations, in seeking for and repairing the points of injury, is not any time lost, if it be used with proper despatch, since it offers the only means of saving the life of the patient. The time occupied in these procedures in laparotomy for penetrating wounds can be no greater, under proper surroundings, than that occupied in the performance of many of the successful operations on the stomach, duodenum, etc., yet, without doubt, a greater surface of peritoneum is manipulated in the latter, and it is also longer exposed to external influences. Can the presumptively unfavorable influence on the case arising from these reasons be lessened or obviated? This question I will answer in the affirmative; ; but since its consideration more properly belongs under the head of the treatment, it does not call for further discussion here.

(6). *Existence of Hemorrhage.* In visceral perforation, intra-abdominal hemorrhage is necessarily a constant feature. The amount of blood lost will depend, of course, largely on the size and number of the vessels injured. The vessels of the omentum and of the intestines, especially the former, bleed with a pertinacity that is unusual in other portions of the body, owing, it is thought, to the walls of the vessels being loosely supported by the surrounding tissues, and also to the fact that they seem to possess in a much less degree the inherent attributes that ordinarily enable the natural forces of a vessel to check hemorrhage, viz.: contraction and retraction The suspicion of the existence of much intra-abdominal hemorrhage is enough to indicate the making at least of an exploratory incision, by which means its existence can be quite positively diagnosticated; when, if necessary, the incision can be extended, bleeding points checked, and blood-clots removed.

(7). *Extravasation of Intestinal Contents.* This is a part of the history of penetrating abdominal wounds and an occurrence that is most to be dreaded by the surgeon. The late Dr. Gross asserts that no case had ever been known to recover in which fæcal matter existed in the abdominal cavity; and fæcal extravasation is, therefore, the strongest of the indicaions calling for laparotomy, for it offers the only means of recovery.

(8). *The greater difficulty of cleansing the abdominal cavity.* If blood and intestinal contents have been generally diffused, the cleansing of the abdominal cavity is more tedious and difficult, and at the same time of greater importance than in laparotomy for other causes; but the thorough performance of this duty, at least so far as the intestinal contents are concerned, appears to be the only means of saving the life of the patient. As to blood, no one can tell the amount that may remain and be consistent with recovery.

In my opinion *laparotomy is a justifiable operation*, but it should not be attempted even in so-called favorable cases, unless the operator can avail himself of many of the recognized means of procedure necessary to combat the shock of the operation, and is sufficiently familiar with its steps to work accurately and with despatch.

Second Interrogatory.—Should it be performed in all cases? This portion of the subject has been allotted to others for discussion; consequently I will hasten to the *Third Interrogatory: When contemplated, should it be done immediately after the accident?*

Assuming all things to be equal, it should be done at once; that is, as soon as the necessary preparations can be made that will be consistent with the attempt. In my opinion laparotomy for penetrating wounds of the abdomen should be of two kinds, the exploratory and the actual. In the former, an incision is made in the median line, so situated, and of sufficient length, as to expose to view the probable seat of the internal injury, which will enable the surgeon to settle not a few important and perplexing questions. He can then, in the great majority of instances, determine if penetration of a viscus have occurred, if hemorrhage be taking place, if intestinal extravasation exists. Among the common causes of death from abdominal wounds may be mentioned hemorrhage, peritonitis, septicæmia, etc. If the patient be in danger from immediate hemorrhage, the blood in the abdominal cavity can be seen through the incision in the abdominal walls. If any considerable amount of blood or of the intestinal contents have entered the peritoneal cavity, peritonitis and death will surely ensue. These conditions also may be seen through the opening. Blood in the peritoneal cavity may cause septicæmia, and that rapidly, its decomposition being hastened by the presence of escaped intestinal gas. This likewise may be seen, or its presence easily detected, by carefully raising the omentum and pushing aside the intestines in the line of injury. The peritoneal pouches also should be carefully examined.

Does the exploratory incision expose the patient to unusual danger? I think not. It seems to me that the large number of laparotomies that have been done here and abroad, especially in England, by Mr. Tait, and the good results attending them, answer this question in the negative. If this conclusion be true, all is gained that is possible, while but little can be lost from the exploratory incision. For if the conditions observed call for it, the actual operation, or a laparotomy in its entirety, can then be performed.

ARTICLE III.

DOUBLE POPLITEAL AUEURISM.* By IRA B. READ, M.D., NEW YORK.

I am about to present to you a case of unusual interest to myself, the relation of which will, I trust, elicit discussion and criticism from those more experienced than myself. In May, 1882, a gentleman called my attention to his knee, saying that he had rheumatism. A goodly amount of flannel, well saturated with liniment, enwrapped the knee, which, when exposed to view, presented no very marked appearance of rheumatism. While making my examination my fingers came upon a swelling in the popliteal space, which was as large as a medium-sized orange. There was very distinct pulsation, and the peculiar aneurismal bruit. These pulsations and bruit at once ceased on the application of pressure to the femoral artery, and there could no longer be any doubt as to the character of the swelling. The treatment for rheumatism was at once stopped; and about three days afterward treatment for the cure of aneurism begun. My first idea was to operate at once, but I finally determined to attempt to effect a cure by compression of the femoral. I had throughout the care of the case the kind assistance and co-operation of Dr. Malcolm McLean, and used the instrument which he had made for the accomplishment of the pressure. This instrument consisted of an upright with base resting on the floor, from which at a right angle extended an arm reaching out over the affected limb. This arm was attached to the upright by a hinge. From the end of the arm depended a shorter arm, about three inches in length, to which was attached a hollow rubber ball, which had been packed as full of cotton as strength and ingenuity could accomplish, the base itself being covered with a piece of soft chamois skin. With the patient in bed and the apparatus in position, a bag containing twelve pounds of shot was attached to the lever, and thus pressure was begun. The arm or lever was notched at different points, so that by moving the bag backwards or forwards the amount of pressure could be diminished or increased. Thus the pressure was kept up most of the time from June 1st to June 6th. I say *most* of the time, for my patient was so self-willed and obstinate that I have no doubt that many of his spare moments were occupied in slyly raising the weight with his hand. But, on the whole, he bore it exceedingly well, with the help of an occasional dose of morphine. On the sixth day the only thing new in the case was a slough at the point of pressure. He would then bear it no longer, and I had no desire that he should, but determined to operate at once. But, still hesitating, we determined to give the application of Esmarch's bandage a fair trial. The rubber band was applied from the toes up to the thigh, except directly over the tumor. The rubber cord was then applied around the thigh sufficiently tight to shut off the circulation through the artery and tumor. This was kept up for one hour and a half, and followed by digital compression for two hours longer by Drs. Brockway, Pierce, McLean, and myself. But all was of no avail. The limb around the seat of the disease was still about two inches larger than the other, and the tumor was still pulsating and productive of much pain. We determined to experiment no more, but proceeded to perform the usual operation for ligating the femoral artery. All hands and instruments were dipped in the surgeon's "holy water," and the artery tied with carbolized cat-gut. The ligature was cut off close to the artery and the wound closed with silk sutures. The slough interfered somewhat with the operation, in that it was necessary to cut a little lower than would otherwise have been done. A dressing of gauze soaked in a one-half per cent. solution of bichloride of mercury was applied to the wound, and this covered with McIntosh. The whole limb was enclosed in cotton batting, held in place by a woolen roller. The patient rallied from the operation and rested well. I now had simply to keep him quiet and look for gangrene, secondary hemorrhage, etc., all of which, to my great delight, did not appear. There was no apparent diminution of the temperature of the foot at any time, and no surgical fever and no suppuration. It was an absolute impossibility to keep him quiet, and, in spite of my most artistically painted pictures of the troubles that might follow, on the fourth day he sat up in bed playing cards; on the sixth day was up, out of bed, and, two days after that, was down stairs in his store, to "see how things were going." There was a small amount of loss of power and numbness in the leg, which gradually passed away; the tumor became smaller and smaller till now it has entirely disappeared. All this occurred in June. Just before New Year's he came to my office and said that he had got his old trouble back again. I looked at him a minute, trying to think how he could get another popliteal aneurism in the old place, when he remarked that it was in the other leg this time.

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* Read before the New York County Medical Association, December 21, 1885.

On examination I found that he was correct. He had the same pain, and pulsating tumor, although it was much smaller than the other one. He could not then spare the time for an operation, but said he would be ready in a few weeks. On the 13th of February he was ready for the operation, which I was about to make, without any attempt at pressure, as he had informed me very emphatically that he did not want any more "d——d nonsense." But after I had explained again to him my reasons for trying pressure before cutting, he finally acquiesced. Pressure was kept up almost constantly for three days, without any effect on the tumor, when, on the 16th, I operated as before. The operation was performed in exactly the same way, and under the same conditions, and with the same subsequent treatment as before, with this exception—the catgut ligature was not, I believe, so thoroughly carbolized as before. There was some suppuration and considerable erysipelatous inflammation and constitutional disturbance. This soon passed away, but for several days there was from a single point a discharge of thin pus. On probing I found two sinuses, diverging from each other, each about six inches in length. I wound a probe with cotton saturated with a ninety per cent. solution of carbolic acid, and thrust it to the bottom of each sinus. During the next forty-eight hours there was very marked local and constitutional disturbance, but there was no further flow of pus, and the sinuses disappeared. The result was in every way as satisfactory as in the other operation, and there was but slight diminution of sensibility. To-day the tumors have entirely disappeared, and he will probably have no more popliteal aneurisms.

Can we draw any practical conclusions from the case thus presented? After recognizing fully a pathological condition, we will as students and physicians ask ourselves the two main questions—What caused this condition—and, What will cure it or remove it?

First, as to the cause of aneurism. Of the two grand divisions, spontaneous and traumatic, we can in this case dismiss at once the latter. My patient was about thirty years of age, German, and by occupation a grocer. His habits were good. He was not intemperate; and after the most careful inquiry I could find no history of syphilis, either in himself or his father, who is, or was at that time, living and pefectly well. In this man's case the only external influence that I could fix upon as bearing at all on the cause was the fact that he was accustomed to go in his grocery wagon to market every day or two, and return with a load of groceries. While thus engaged his wagon was so full of empty boxes and barrels one way, and of goods the other way, that he was compelled to sit in a cramped position, with his legs flexed much beyond the point of comfort. But I cannot believe that this, without some internal predisposition, could have caused his trouble. If so, why are not the thousands of others who follow the same occupation similarly affected? Whether we look to age, sex, occupation, climate, or any external influence, I do not believe that we can assign any of them as primal causes in the production of aneurism. I believe we must look first to the condition of the artery itself. We will find degeneration, either atheromatous or calcareous, the cause of which we may or may not be able to discover. Having found this condition, I am willing to admit that age, occupation, or other conditions may act as exciting causes. From this as a starting point, I would say that those whose age or condition enfeebles them, those whose occupations most expose them, those who live in a climate which they do not well endure, would be most liable to suffer from aneurism.

In the case presented to your consideration I found, as I have said, a possible exciting cause. There was also a possible predisposing cause. While there were no abnormal heart sounds, yet the action of the heart was at all times very violent, not in frequency but in force, and all the medical gentlemen who saw the case recognized the fact that it required a great weight to control the femoral artery. I would then, in this case, say that excessive strain on the arteries, caused by an excessive action of the heart, was aided by the man's occupation as an exciting cause in the production of these aneurisms. And here I must differ with Prof. Gross and other writers in their use of the words predisposing and exciting. Prof. Gross says: "All laborious pursuits, involving sudden and violent muscular exertion, powerfully predispose to its occurrence." I should say they were powerful excitants, and that the predisposition, if any, already existed. I much prefer Holmes' use of the terms. He says: "None of the ordinary events which are looked upon as exciting causes of the disease can produce it without a predisposing cause in the condition of the artery itself." Webster's definition of predisposition, as applied to material things, is: "Previous fitness or adaptation to any change." I would, therefore, look to the condition of the artery for a cause that would predispose to aneurism, if certain other events should excite that predisposition to action, or in the case under consideration excite to the production of aneurism.

And now as to what will best remove the trouble. No method is devoid of great risk and responsibility. We will undoubtedly honestly differ in our preferences. Some have been most successful in one way, and some in another. My own experience is too limited to make me an advocate of any one plan over another, but from that experience I would lay this down as a rule never to be departed from: *When compression can be made in the artery above the diseased portion, it should always be resorted to, as a means of lessening the danger consequent upon ligation of the artery.* Take, for example, popliteal aneurism. Compression of the femoral below the profunda will cause the blood to knock more loudly at the door of the profunda when it finds that it cannot gain admission to the femoral. Thus, it will gradually and surely distend the profunda and other smaller branches, and enable it more fully to carry on the work of the occluded femoral. If, in the meantime, you can succeed in filling the aneurismal sac with a clot, and thus effect a cure, so much the better; but if this result does not follow, and you must ligate the femoral, still I say so much the better. Thus may we carry to the limb below heat, nourishment, sensation, life, and thus give a wider berth to that dreaded sequel of ligation, death of the limb, and perhaps death of our patients.

ARTICLE IV.

THE DELAWARE STATE MEDICAL SOCIETY AND ITS FOUNDERS IN THE EIGHTEENTH CENTURY.* BY L. P. BUSH, A.M., M.D., WILMINGTON, DEL.

The Delaware State Medical Society is one of the oldest institutions of the kind in the United States. I am not aware that it is antedated by any one except the Massachusetts Medical Society. It was incorporated in the year 1789, February 3d, by the Legislature of Delaware, on behalf of the following corporators, resident physicians of the State—viz.: John McKinly, Nicholas Way, Jonas Preston, Ebenezer Smith, George Monro, Thomas McDonough, Joshua Clayton, Ezekiel Needham, James Tilton, William Molleston, Edward Miller, James Sykes, Nathaniel Luff, Robert Cook, Matthew Wilson, Joseph Hall, John Marsh, John Polk, John Stephens Hill, Julius Augustus Jackson, William McMechen, Henry Latimer, James McCallmont, Joseph Capelle, Archibald Alexander, Henry Peterson, and Levarius Hooker Lee.

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* Presented at the Annual Meeting of the American Academy of Medicine, held at New York, October 28 and 29, 1885.

The name and title of the Society as conferred by the Legislature was, and still is, "The President and Fellows of the Medical Society of Delaware," and its powers were such as are usually granted to such corporations.

In pursuance of the Act of Assembly, the first meeting of the Society was held at Dover, Delaware, May 12, 1789. It was called to order by Dr. James Tilton, who was unanimously elected Chairman pro tem., and Dr. Edward Miller was chosen Secretary. A committee consisting of Drs. Preston and Miller was appointed to prepare a draft of a constitution. The Committee reported in the evening, and the constitution was ratified, after which the following persons were elected officers of the Society for the ensuing year:

President.—James Tilton, M.D.

Vice-President.—Jonas Preston, M.B.

Secretary.—Edward Miller, M.B.

Treasurer.—James Sykes.

Censors.—Nicholas Way, M.D.; Matthew Wilson, M.D., D.D.; Joshua Clayton; Nathaniel Luff.

In May, 1790, Dr. Edward Miller delivered the first anniversary oration before the Society in Dover, according to appointment, for which the Society tendered a vote of thanks. The special subject of the oration is not mentioned in the minutes.

The Society early showed its public spirit by raising a fund for the presentation of a premium upon some subject of general medical or hygienic interest.* The first subject proposed and adopted was expressed in the following words: "What is the origin and nature of the noxious power which especially prevails in hot and moist climates during summer and autumn, and produces intermittent and remittent fevers, and certain other diseases; and by what means may this insalubrity of climate be corrected, and the diseases thence arising be most successfully prevented and treated?" and in the Latin language as follows:

Quænam sit potentia nocens, ejusque origo atque natura, unda, in regionibus calidis, iisdemque humidus, intermittentes oriuntur febres, remittentes etiam, variaque alia mala, qua æstatis et autumni tempore grassoré solent; qua ratione hoc cœli vitium corrigé possit; quo parto, quibusque auxiliis istiusmodi morbi arceri atque tractari debeant?

A "program" containing the conditions to be observed by the competitors, whether in the United States or elsewhere, was published in both the English and Latin languages, and it concluded as follows:

"The interesting nature of this question must appear on the most cursory observation. A large portion of the earth, and especially those countries which otherwise enjoy the richest blessings of nature, are, from this cause, annually subject to sickness and depopulation. And it may be safely affirmed, that of all the sources of disease incident to mankind, this is one of the most extensive, malignant and fatal.

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* In December, 1791, the Society received from John Dickinson, Esq., a letter with an enclosure of £33 3s. 4d. to furnish that object, and in the following year a further contribution for the same purpose.

"A successful investigation of the origin and nature of this morbid principle would greatly enlarge the boundaries of science, and advance the comfort and happiness of society, and whoever shall discover a certain and easy method of correcting its virulent effects, while he renders a splendid service to medical philosophy, will have a just claim to the applause of his contemporaries, and to the gratitude of posterity.

"The Society acknowledges and laments the obscurity which involves this question, trusting, however, that this objection, though formidable at first view, will deter no person from an inquiry so pregnant with importance, ability and reputation. The obscurity, how great so ever it may be admitted to be, implies not any absolute inscrutability.

"At the same time that the Society deprecates the censure of the learned world for the indulgence of expectation, which eventually may prove to have been over-sanguine, it still hopes that the discovery now contemplated is within the reach of the human mind, assisted by the enlightened views of modern science, and animated by the enterprise and ardor which distinguish the present inquisitive and philosophic age." (Signed)

EDWARD MILLER, Secretary.

This "program" is also recorded on the minutes in the Latin language.

In thus presenting this interesting question in the duplicate form in which it appears upon the minutes of the Society, I wish to substantiate a claim which might be made in favor of the high culture, enterprise and desire for the honorable advancement of our profession, which existed in the Delaware Medical Society nearly one hundred years ago. It was a most creditable step on the part of the Society to propose a prize-dissertation on this obscure subject; and it does not derogate from the scientific character of its Fellows, that the paper or papers presented were, after a critical analysis, which is recorded in the minutes, decided to fail of successful competition, on account chiefly, as stated by the committee, "of the assumption of many facts without evidence, the want of experimental injury, and the defect of all original discovery."

This same inquiry might to-day be proposed in this Academy: for with all the light which has shone upon our profession from the scientific researches instituted at home and abroad, no answer has yet come which is more satisfactory to the medical mind of the age, than was the dissertation of which I have just spoken to the committee of the Delaware Society.

At various meetings, either on their introduction as members, or subsequently, the following were among the subjects on which papers were presented by the members: Dr. Snow on "*Ophthalmia;*" Dr. Barrett on "*The Influenza;*" Dr. Capelle on "The *Tœnia* in the bowels of Rats;" Dr. Tilton on "*Cholera Infantum;*" Dr. Theo. Wilson on "*Phthisis Pulmonalis;*" Dr. David Bush on "*Small-Pox;*" on an "*Epidemic of Bilious Colic in Dover,*" on a case of *Typhus, Fever*, on a case of *Hydrocephalus Internus successfully treated by Mercury*, on *Cholera Infantum*, on *Succedania for Peruvian Bark;* all by Dr. Edward Miller.

It is recorded in the minutes of one of the meetings in 1795 that a printed communication was received from Dr. Samuel L. Mitchell, Fellow of the Royal Society of Edinburgh, and Professor of Chemistry, Natural History and Agriculture in the College of New York, entitled, "Remarks on the gaseous oxide of azote, or nitrogen, when generated in the stomach, inhaled into the lungs, or applied to the skin; being an attempt to ascertain the true nature of contagion, and to explain thereupon the phenomena of fever."

At the same meeting a paper was presented by Dr. Edward Miller, entitled, "A cursory view of the question whether the noxious power producing intermittent and remittent fever originates from a deficiency of oxygen gas, or the generation of a positive poisonous gas in certain insalutary portions of the atmosphere." The result of the examination of this paper by the committee has been already stated.

In 1791 Dr. James Sykes delivered by appointment the anniversary oration; in 1793 Dr. David Bush fulfilled the same appointment; in 1795 Dr. Laws; Dr. Allen M'Lane in 1812; and in the same year a paper was presented by Dr. Harris "on the final cause of the diseases, death and dissolution of the human body." In 1823 Dr. M'Lane was appointed to deliver a eulogy on the life and character of Dr. James Tilton, which, with the oration of Dr. Wm. D. Brinkle on Medical Education, was published by the Society; and in 1824 Dr. J. F. Vaughan read a memoir on the Life of Dr. James Sykes, which was also printed. These are but a few of the deliverances before the Society in its earlier history. To carry them further would only be wearisome.

The original charter of this Society only contemplated an association for the promotion of the unanimity and scientific and practical advancement of the profession of medicine in the State. But at the instance of the Society, the Legislature, in the years 1819–20–21–22 and 35, conferred upon the Society the authority to appoint annually a body from their own number, to be called the "*Board of Medical Examiners*," with power to permit any applicant to practice medicine and surgery within the State, upon the presentation of a diploma conferred by a reputable college of medicine, or who otherwise submitted to a full, strict, and impartial examination by the Board, and read a satisfactory thesis upon some medical subject; and the assembly also imposed a penalty upon anyone who should practice medicine in the State without proper authority from this Board. The charter of this Society and of the Board of Medical Examiners still exist, although the powers of the latter have been much restricted since the year 1835.

With a few intervals of torpor, the society has continued in active operation up to the present time, exercising a beneficent social as well as professional influence by striving to maintain the standard of medical requirement and of moral character; and thus, as we think, its labors have not been in vain.

In the history of our State I have not been able to find a record of a physician of any eminence before the time of Doctor Henry Fisher. In the year 1725 he emigrated to this country from the city of Waterford, Ireland. The ship in which he came, after encountering many dangers during a protracted voyage, anchored in the roads of Lewes, Delaware, and he with several gentlemen landed at the town for recreation. But he was so well pleased with the place and its surroundings, including the broad bay and ocean in full view, that he concluded to make it his residence. He had left a young wife at home; and he at once sent for her to join him in his selected home in the new world. In a short time she came over and landed at New Castle, whence she traveled on horseback to her destination. Dr. Fisher soon obtained an extensive and lucrative practice, being sent for from Kent County and Maryland for counsel in serious cases of disease. He stood unrivalled in his profession, being the only regularly educated physician in Sussex County during his life. Governor Penn, hearing of his eminent reputation, wrote frequently to him to come to Philadelphia, a compliance with which would no doubt have been followed by wealth and the enjoyment of the best society of the country; but he declined the tempting proffers, and lived and died in the place of his first love. He was a gentleman of much taste, and adorned his seat at Lewes in the English style, rendering it so pleasant and beautiful that his neighbors styled it "a paradise." He died in 1748, leaving his widow, two daughters, and a son, Henry, who continued to reside at Lewes, and became a prominent citizen, and of valuable assistance both to the merchants of Philadelphia, and also to the Government of the United States, during the Revolution, by the early communication of information which he received, through his pilot and whale boats, in the conspicuous place he occupied; so favorable for ascertaining the early approach of a foreign foe. The facts of this sketch are from *Huffington's Register.*

James Tilton was born in the County of Kent, State of Delaware, in the year 1745. His father, who died when he was only three years of age, left but a small estate, sufficient, however, to enable his mother to afford him the opportunity of a classical education at Nottingham Academy, Maryland, then justly celebrated for its excellent discipline and culture, under the Rev. Samuel Finley, afterwards President of Princeton College. On leaving Nottingham he entered the medical department of the University of Pennsylvania, and was graduated in the year 1771; six years after the organization of the medical department of the University. He immediately entered upon the practice of his profession at Dover, Kent County, Delaware, and was beginning to achieve a reputation for ability and conscientious devotion to his duties when the engrossing agitation of the subject of the independence of the United States seized upon him. In 1775 he addressed a letter to his friend and classmate in the University of Pennsylvania, Dr. Jonathan Elmer, of Bridgeton, New Jersey, upon the critical condition of affairs in this country, and expressed his determination, if the Colonies should take up arms, to offer his services in their defense. He afterwards showed his earnestness and sincerity by becoming the First Lieutenant of a Company of Light Infantry; but after the Declaration of Independence he was appointed surgeon in a Delaware regiment. He was with the United States forces at Long Island and White Plains, and in the subsequent retreat to the Delaware River. In 1777 he was in charge of the General Hospital at Princeton, New Jersey, where great neglect and consequent suffering existed among the troops, he himself narrowly escaping death from an attack of fever contracted there.

Said he, "It would be shocking to humanity to relate the history of our General Hospital in the years 1777 and '78, when disease swallowed up at least one-half of the army, owing to a fatal tendency in the system to throw all the sick of the army into a general hospital, whence crowding, infection, and general mortality resulted, too affecting to mention."

Convinced that much of this was owing to the union of the Directing and Purveying Departments in the same person, he afterwards wrote as follows: "I mention it without a design to reflect on any man, that in the fatal year, 1777, when the Director-General had the entire direction of the practice in our hospitals, as well as the disposal of the stores, he was interested in the increase of sickness and consequent increase of expense, as far, at least, as he would be profitted by a greater amount of money passing through his hands."

In the winter of 1779-80, the sufferings of the sick in the tent hospitals was very great, and although an improved system, free from overcrowding, was recommended by Dr. John Jones, Professor of Surgery in King's College, New York, it had not been adopted. Doctor Tilton was at that time in charge of the General Hospital in Trenton, N. J., and to him has been ascribed the origination of a new system of hospital construction by the erection of log-huts, roughly built, so as to admit of free ventilation through the crevices. The floors of these buildings were hardened clay, and each was intended to accommodate not more than six men. The fireplace was in the centre, and the smoke escaped through a hole at the top.* The result reached his highest expectations; the typhus fever patients rapidly improved, and the plan was generally adopted.

In a letter written by General Washington, September 9th, 1880, he says: "I have heard that a new management is about to take place in the medical department, and that it is likely to be a good deal curtailed in respect to many of its present appointments. Who will be the persons generally employed I do not know, nor do I wish to know; but I will mention that I think Dr. Cochran and Dr. Craik, for their services, abilities, &c., have the greatest claim to their country's notice. Doctors Latimer, Tilton, Hagan, and Townshend, who are now senior surgeons, are also gentlemen of great merit, and have a just claim to be continued."

In September, 1781, through the exertion chiefly of Dr. Tilton, an act was passed by Congress providing for promotion by seniority in the medical corps.

About this time Dr. Tilton was elected a Professor in the University of Pennsylvania; which honor he declined, unwilling to desert his situation in the service of his country.

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* The original suggestion of this form of military hospital has by some been ascribed to Marshal Saxe.

After the surrender of Cornwallis at Yorktown he returned to his native State, and recommenced the practice of his profession in Dover, in 1782. He was a member of Congress in 1782, and repeatedly served in the Legislature of his own State.

Finding that the influence of malaria, then so abundant in Kent County, was undermining his health, he removed to Wilmington, New Castle County, and there resumed his profession. Soon afterwards he was appointed by the Government Commissioner of Loans, which was a great relief pecuniarily, as he had both entered and left the army without money. This office, however, he soon relinquished on account of a change of the National Administration, with which he did not coincide.

With a reputation well established, his professional services were much sought; and the highest confidence was reposed in him, both by his patients and professional brethren, as a most honorable man and judicious physician. He continued thus in full practice for several years, when, having purchased a small farm adjoining the town, he removed thither. On this delightful spot, which commands a view of the Delaware, Christiana, and Brandywine rivers, with the town and also the intervening country of many miles in breadth, so beautifully interspersed with fields and woods, he built his house of the blue granite which underlies the ridge, and there removed, expecting to be permitted to enjoy his remaining years, disengaged from the more arduous duties of his profession. Fond of horticulture and pomology, he adorned his grounds with flowers and fruits, and here he administered to the diseased, or entertained his friends at his frugal but hospitable table, upon the products of his own farm.

At this time most of the surgeons who had acquired reputation in the War of the Revolution were either superannuated or had died, and the Government of the United States, having declared war with Great Britain, remembered his valuable services to the country, and, recalling him to her aid, appointed him Surgeon-General of the army of the United States. After much reflection and with much reluctance, on account of his age and impaired health, he consented to afford his ripe experienced and sound judgment to his country, having received assurance that his duties would be chiefly administrative, and his headquarters generally at Washington.

At the outbreak of the war of 1812 Dr. James Mann, of Massachusetts, had been appointed Hospital Surgeon, and was ordered to superintend the Medical Department of the Northern Army, in executing which he had immense difficulties to encounter. At that time great sickness and suffering existed in the Northern and Eastern divisions of the army.

At Greenbush, where some two to three thousand troops were usually stationed in 1812, from one to seven or eight hundred were on the sick-list in the autumn with diarrhœas, dysentery, measles, fevers, and pneumonia. Supplies were abundant, but no proper administration was exercised from want of any executive head of the bureau; and the hospital officers had no rank to protect them in the performance of their duties.

Says Dr. Harvey C. Brown, in his historical notes of the medical department of the army: The experience of the campaign during the fall of 1812 and the winter of 1812–13 convinced Congress of the necessity of a more thorough organization of the Staff Department, and on the 3d of March an act was passed of which the following is the Seventh Section, "And be it further enacted that for the better superintendence and management of the hospital and medical establishment of the army of the United States, there shall be one Physician and Surgeon General, with an annual salary of two thousand five hundred dollars, whose duties and powers shall be prescribed by the President of the United States." This was the position for which Dr. Tilton was selected.

At the outbreak of the war he had prepared a work entitled "Economical Observations on Military Hospitals, and the Prevention and Cure of Diseases Incident to the Army;" in which he elaborated the plan for hospital organization presented by him to Congress in 1781. In this work he condemns the practice which had hitherto prevailed of conforming to the organization which obtained in the European armies. This was the first publication on this subject which had been written in this country as the result of personal experience. From the *Medical Repository* for 1813, the following summary of its contents is extracted :

"Dr. Tilton does not distinguish medical officers into physicians and surgeons, but considers them one, or the other, as circumstances may require. He proposes to establish a medical Board in each military district, or separate army, to be composed of two or more hospital surgeons, and several regimental surgeons. This Board is to have a field officer to sit as Chairman, and to meet monthly, or oftener if necessary, by general order, to regulate the concerns of that department. This Board is to examine and appoint in all vacancies of hospital and regimental mates, with the consent of the commanding officer ; to examine candidates for hospital surgeons, and recommend them ; and to establish rules for the medical department. The oldest hospital surgeon is to be the Director of general and regimental hospitals in the army or district where stationed, and to act as prescribing surgeon, without interfering in commissarial duties. He will thus be called to visit and superintend the several establishments for the sick within his charge. This arrangement is intended to prevent impositions upon the Government, and hereafter to provide surgeons adequate to their respective duties."

Instead of establishing extensive and costly buildings, he proposed to extend the circle of regimental practice, and diminish the scale of hospital practice ; thus, if possible, to prevent disease and ward off infection. Having a harmonious understanding between the surgeons of the army, and a proper regulation of the Medical Board, he hoped to keep in check any disposition to throw the sick into general hospitals beyond moderation and propriety, whereby they must become crowded, producing the inevitable consequences of camp, jail, typhus, or hospital fevers, from which armies have suffered more than from their enemies.

The wisdom and value of these suggestions at that time is manifest from a reference to the state of the army during the Revolutionary War; for although some of the best physicians of our country, including Drs. Rush, Shippen, Walter Jones, Morgan, Turner, Burnet, Potts, Cochran, Cutter, Craik, Warren, and others of like character, were engaged in the service of the country, the existing regulations of the medical department of the army had too often proved insufficient to accomplish the ends desired, in the maintenance of the health of the troops, the preservation of the sick from the low fevers which proved so fatal, the harmony and efficiency of the department, and the security of the Government from peculation.

On the acceptance of this appointment Dr. Tilton considered it his duty to visit and inspect the hospitals on the Northern frontier. At Sackett's Harbor he found that the troops under General Dearborn, which had been concentrated during the winter, had been visited by severe sickness, and that the hospitals were filthy and neglected as to their hygienic condition. He immediately convened the medical Board, broke up the hospital there, and established it at Watertown, twelve miles distant.

Along the Northern frontier he introduced his hospital regulations, and the benefits were soon visible in the improved health of the army. Of the second visit contemplated to the North he was disappointed by the occurrence of a tumor on his neck, and on the disappearance of this, a formidable tumor attacked his knee, which, after causing much suffering, necessitated the amputation of his thigh. This operation was performed December 7, 1815, at his residence, probably by Dr. Physick, assisted by Dr. Smith, of Wilmington, and others. He bore the amputation with surprising fortitude and calmness; expressing no sign of suffering, although then just beyond seventy years of age. In a sketch of his life Dr. Allen McLane, of Wilmington, he remarks: "An intimate friend of the Doctor, who was present on this painful occasion, says: 'For several days and nights after the amputation I had the gratification of watching with and comforting him in his lonely, bachelor's abode, where the balm of female tenderness and sympathy never mitigated a pang or compensated for a woe, but where masculine aids, rough as they are, were alone employed to soothe and cheer the scene."

It will be perceived from this that Doctor Tilton never married. A kind, noble, and generous heart dwelt within his breast; although from his tall and angular exterior, and a brusque and not very attractive manner, strangers might have been led to a very different conclusion. At the basis of his conscientiousness in the discharge of his duties to his country and to his patients, lay a deep and strong faith in the Holy Scriptures.

He was a member of and a constant attendant upon the services of the Presbyterian Church in Wilmington, Delaware; and the writer of this sketch well remembers his tall form, as he moved along the aisle of the church, assisted by his crutch, rendered a necessity by the amputation above mentioned.

Fond of his friends both male and female, he was always glad to see and entertain them, not only by his genial and intelligent conversation, but with the "Virgilian Feast," as he styled it, provided from the products of his own soil. From this too he chiefly drew the material which constituted his plain homespun clothing, made for comfort, and not for display, and contrasting strongly with the brilliant court dress of the representatives of other nations, when he was present at the Levees in Washington. Regarding true worth of character as better than riches or fame, he dispensed to young men his influence and counsel for their encouragement in the beginning of their career, and by his example he led them to admire and seek after such honorable results as had been attained by him.

Doctor Tilton departed this life May 14th, 1822, in his seventy-seventh year, peacefully and trustfully; and the community in which he lived and died united in a common expression of regard for his character and labors and of sorrow for his loss.

About the year 1857 his remains were disinterred, and deposited in the Wilmington and Brandywine Cemetery; and the Delaware State Medical Society took measures for erecting a monument to his memory by the appointment of a committee, of which the late Dr. Henry F. Askew was chairman. This memorial now stands in that burial place, a fitting tribute to a great and good man. Besides the work on Military Hospitals above mentioned, Dr. Tilton prepared and had published the following papers: "Observations on the Yellow Fever"; "Letter to Dr. Duncan on Several Cases of Rabies Canina;" also a second one on the same subject; "Observations on the Curculio;" "On the Peach-Tree and its Diseases;" "A Letter to Dr. Rush Approving of Bleeding in Yellow Fever;" and Oration in 1790 as President of the Delaware Society of the Cincinnati; Queries on the Present State of Husbandry in Delaware.

The subject of his Thesis for the degree of Bachelor of Medicine was "Respiration," and his Inaugural Dissertation for the degree of Doctor of Medicine in 1771 was "Hydrops."

He also published his observations "On the Beneficial Effects of Sea-air Upon Children Suffering from Cholera Infantum or Chronic Diarrhœa," and recommended the town of Lewes, Delaware, as a proper place of resort in such cases.

Some of these papers were read before the Delaware Medical Society, and some published in the *Medical Repository*.

I am indebted to a memorial address delivered by Dr. Allen McLane, of Wilmington, Delaware, before the State Medical Society in 1823, for many of the facts in the foregoing paper; and to Dr. Toner, of Washington, for a part of the above list of Dr. Tilton's papers.

Dr. Edward Miller, one of the corporators of the Delaware State Medical Society, was born near Dover, Delaware, in the year 1760. He was the son of Rev. John Miller, A.M., who removed from Boston, Massachusetts, to Dover, where he resided forty-three years, in charge of the Presbyterian Church. He was a ripe scholar, and well versed in the Hebrew, Latin, and Greek languages.

His son Edward received his primary training in classical literature with his father, and afterward accomplished a collegate course at Newark Academy, Delaware, under the tuition of Rev. Drs. Francis Allison and Alexander McDowell. His medical studies were commenced in the office of Dr. Charles Ridgley, of Dover, but before he had concluded his studies his patriotism got the better of his fondness for his adopted profession, and he entered the army as surgeon's mate, and afterwards as surgeon to an army ship. On his return home, he resumed his studies at the University of Pennsylvania, and was graduated in medicine in 1785, the subject of his thesis being "De Physconia Splenica."

He then returned to Sussex County, to enter upon the practice of physic. At the first session of the Delaware Medical Society he was called upon, although then only five years from his graduation, to deliver the Inaugural Address. In 1793 he prepared a paper defending the theory of the domestic origin of yellow fever, then for the first time prevalent in Philadelphia, a copy of which he sent to Dr. Benj. Rush, who was led from its perusal to declare its author "second to no physician in the United States."

In 1796 he removed to New York, and there, in conjunction with Dr. Mitchell, and Dr. Elihu Smith originated the *Medical Repository*, the first medical journal issued in the United States. This work everywhere bears the marks of his genius and cultivation, by the brilliancy of his style, his lucid arguments, his originality, and varied knowledge.

He became "Port Physician" of the City of New York, "Professor of the Practice of Physic" in the University of New York, one of the physicians of the New York Hospital, and a member of the Philosophical Society of Philadelphia. His reputation and the attractiveness of his writings brought him into correspondence with eminent men in Great Britain, Germany, and France.

In the *Medical Repository* of date A.D. 1800 Dr. Miller published some observations on cholera infantum in which he recommends calomel and opium in that disease, in a different form from that prescribed either by Drs. Cullen, Rush, or Physic. Believing the liver to be involved materially in the production of the disease which bore that name, and considering that opiates, and aromatics alone were merely temporizing remedies, he suggested the use of calomel in addition, in small doses; to wit, for a child two years of age, opium gr. 1-6, calomel gr. 1-3, every two, three, or four hours as required.

I apprehend that any one who has thus used these remedies in the same, or even smaller doses, will not be disposed to controvert the propriety of this treatment.

In another paper he elaborated the importance of "abstemiousness" in warding off the effects of the malarial poison, and also its value as a remedy.

Another paper is devoted to the "Medical Laws of Evidence," which he considered necessary to set forth in consideration of the deceptions which everywhere abounded on this point; and more especially as physicians were often accused of a culpable indifference to improvements, so-called, in the treatment of disease, when they hesitated to believe the stories of wonderful remedies and wonderful cures, which were so frequently propagated in every community, and often gained belief in the minds of respectable and judicious men.

The course of his remarks shows that in that day, as well as in the present, nostrums were foisted upon the community as specifics, and certified by judges, clergymen, and other estimable members of society.

In the year 1793 Dr. Miller wrote to Dr. Rush setting forth the views which he entertained of "The Domestic Origin of Yellow Fever; and Its Non-Contagiousness," and in 1806, while Port Physician of New York, he reiterated the convictions which he still retained, after having passed through the epidemics of 1798 and 1803.

He objects to the agency of contagion for the following reasons: "*First*, no relation is observed between the source of the pretended contagion and the spreading of the disease to individuals and families; nor was there ever any successful attempt progressively to trace the propagation of it to any number of persons from the first case or from any single point of infection.

"*Second*, The pretended contagion is admitted to produce no effect in our climate except in particular situations, and at a particular season of the year, when an impure and noxious atmosphere, which ought of itself to be considered as a sufficient cause, is acknowledged to exist. But to consider a disease as contagious, which at the same time exhibits no appearance of that quality, but in certain climates, in such climates only in certain places, at such places only in certain seasons, and even at such seasons only after a particular degree of heat and moisture, is undoubtedly to lose sight of all the established properties and laws of contagion.

"*Third.*—It is admitted that the disease does not spread when the sick are removed from the impure air in which it was contracted.

"*Fourth.*—No communication of the disease was ever observed in yellow fever hospitals, situated at a small distance from the cities to which they belong.

"*Fifth.*—The extinction of the disease by cold weather is an insuperable objection to the doctrine of its propagation by contagion.

"*Sixth.*—Yellow fever does not prevail in countries where the heat is not sufficient to exhale the miasmata of foul grounds and other corrupting matters in the requisite quantity and virulence.

"*Seventh.*—Persons contracting the disease in New York, and dying in remote places, did not communicate the disease to their attendants.

"*Eighth.*—The universal exemption of the physicians of New York, amounting to 50 or 60 persons, from the disease of 1805.

"*Ninth.*—The failure of every attempt to arrest the disease by removing the sick, while leaving the well in their homes."

"If it were possible," says he "to add anything to the evidence of these irresistible facts, I might subjoin that yellow fever cannot be considered a contagious disease; because, unlike all other contagious diseases, it has no specific character, no definite course or duration, and no appropriate, essential, or pathognomonic symptoms; because the supposed contagion rarely operates singly, and in general depends on the co-operation of exciting causes; and finally, because the miasmata which produce this disease are more or less noxious, as they are more or less concentrated, a property which does not belong to the specific contagion of small-pox or other contagious diseases." "Under the conviction of these facts, I am," said he, "compelled to conclude that this disease is absolutely and universally non-contagious."

These views, so clearly and forcibly expressed, will at the present day be strongly controverted by some, and as strongly advocated by others. The prevailing sentiment would limit these conclusions of Dr. Miller to *personal* contagion, but reject them when applied to *fomites*, when carried within the yellow fever belt; thus acknowledging the *infectious* nature of the disease.

Doctor Miller was a decided disciple of the school of Brown and Darrow, and his reasoning was often based upon its doctrines. Looking forward from this standpoint, he remarks, "If the sick could avail themselves of the utmost efficacy of water, it might perhaps become as universal an extinguisher of fever as of fire. The use of cool air in fevers forms an era in the history of medicine. The use of water, cold, tepid, or hot, so as to suit the varying degrees of heat intended to be diminished or increased, may form an era of greater importance."

It is unnecessary to say what degree of advocacy these views have obtained at the present day.

The death of Dr. Miller, which took place March 17, 1812, at the age of 52 years, was universally lamented, and by no one, outside of his own relations, more than by Doctor Rush.

A few days after his death, his brother, Rev. Dr. Samuel Miller, received the following letter of condolence from Doctor Rush:

PHILADELPHIA, March 19, 1812.

"MY DEAR FRIEND:—

"Col. McLane communicated to me in a short note yesterday morning the distressing intelligence of the death of my much-beloved and invaluable friend. It afflicted me in the most sensible manner. He was very dear to me, not only from his uncommon worth, but also because he was my early and uniform friend. In an intercourse of thirty years, I never saw anything in him that was not calculated to excite affection, esteem, and admiration.

"During the confederacy of my brethren against me, in the memorable years in which the yellow fever prevailed in our city, he openly advocated my principles and practice, and by the weight of his name, and the learning and ingenuity of his publications, contributed very much to their establishment in our country. Judge of my affection for him, and the value I placed upon his integrity and friendship, when I add that, four or five years ago, in a private interview in my own house, I committed my lectures and manuscripts to him, to be revised by him, and published or destroyed, as he saw proper, after my death. He received this communication with a good deal of emotion, and promised to fulfil my wish in case he should survive me.

"But why do I complain of the loss I have sustained by his death? Science, literature, humanity, the United States, have all been deprived of one of their strongest pillars and most beautiful ornaments. They will long, very long, deplore his early and premature removal from the high and useful station he filled in life. They now mingle their tears with yours and mine.

"When the late Rev. Dr. Kennet, of Freehold, heard of the death of his friend, Dr. Finly, he cried out, 'I feel as if I had lost my broadside. He was my brother. I could have gone to prison and to death with him.'

"I imagine we both feel disposed to adopt the same affectionate and passionate expression in revolving in our minds the uncommon virtues and attainments of our departed friend and brother. His death has rendered the republic of medicine a solitude to me, for he filled a place in my bosom which no physician in our country is able, or if able, not willing to occupy.

"Ah! Dr. Miller, Dr. Miller, my son, my friend, my brother!"

On another occasion, after speaking of his intellectual ability and acquirements, he says, "But his principal merit was of a moral nature. The charm that was constantly diffused over his countenance and manners was the effect of the habitual benevolence of his temper. The silence of pain and the eye of hope which took place in his patients the moment he sat down by their bedside were produced not more by their conviction of his skill than by their unlimited confidence in his sympathy and integrity; and the affectionate attachment and esteem of his friends were founded in the belief that his deeds of kindness were not simply the effects of spontaneous feeling, but the result of a heartfelt sense of moral obligation. Let the professors and students of the healing art, and the lovers of science everywhere, deplore the death of this excellent physician and excellent man. Let the friends of humanity drop a tear over his untimely grave. In the records of illustrious men who have promoted and adorned the science of our country, Dr. Miller will always maintain a distinguished rank." Such is the testimony to the worth of Dr. Miller by that truly great man, Dr. Rush.

Doctor Miller possessed all the qualities of mind and heart appropriate to the successful and accomplished physician. His thorough acquaintance with the masters of literature in the Latin and Greek, as well as with those of our own language, combined with his native talents, made him one of the most perspicuous writers on medicine of his own or any subsequent period, an eminence which was accorded to him by the highest authorities of his day.

Says Dr. Thatcher, "His moral qualities were worthy of no less praise than his talents, learning, and professional skill. From his earliest youth he appeared not only to abhor everything directly and openly dishonest, but even to recoil with the most delicate sense of moral obligation from every species of intrigue and questionable dealing." Although not a member of any church, he cultivated his religious sentiments, especially in the latter years of his life, by a devout study of the Holy Scriptures, a principle of action doubtless inculcated by his excellent father.

Such is the inheritance which was bequeathed by this admirable physician to his brethren, which makes it so appropriate that it should be perpetuated even much more ably than has been done in this feeble manner.

As to the other physicians whose names are found among the corporators of the Society, I will only mention three or four, that of Joseph Philippe Eugene Capelle, who was born in Flanders, came to this country with Count Rochambeau, and was placed on the staff of General Lafayette. It is said that when Lafayette was wounded in the battle of Brandywine he declined the offered services of Doctor Capelle, remarking that they were more urgently needed by the many wounded soldiers.

After the war he settled in Wilmington, Delaware, where he died in 1796, honored and lamented.

Dr. Nicholas Way was a native of Delaware, and a graduate of the University of Pennsylvania, class of 1771. After practising his profession in Wilmington until 1796, he returned to Philadelphia and was appointed by Washington to the directorship of the U. S. Mint. He died from yellow fever in 1797.

Dr. John M'Kinley, a native of Ireland, settled and practised medicine successfully in Wilmington ; was elected president of the State of Delaware in 1777 ; was taken from his house by a party of British soldiers on the night after the battle of Brandywine ; was carried to the British frigate Solebay, Commodore Griffith, then lying in the Delaware River ; was paroled the next year; returned to Wilmington, and died in 1796. An honorable tribute to his memory is inscribed upon his monument.

Dr. James M'Callmont, a native of Delaware, entered the U. S. Navy in 1777 ; was captured by a privateer, and narrowly escaped death by exhibiting the Masonic sign to the officer about to send him over the vessel's side; returned to Delaware, and died in 1824.

Dr. James Sykes was one of the most distinguished practitioners of medicine in Delaware. Born in that State, he was graduated in medicine at the University of Pennsylvania. He settled in Dover, Delaware, had an extensive practice, and was declared by Dr. Tilton to be unsurpassed in his day as a lithotomist. On his decease, which occurred in 1822, a memorial highly honorable to his character and attainments appeared in a medical journal published in Philadelphia.

Dr. Henry Latimer was born at Newport, Delaware, April, 1752. He was graduated at the University of Pennsylvania, and in July, 1773, he received the degree of Master of Arts. He commenced the study of medicine in Philadelphia, but finished his studies for the degree in Edinburgh. On his return home he settled in Wilmington, Delaware, but in 1777 was appointed surgeon in the Continental army, in which position he served his country until the surrender at Yorktown. So valuable were his services that he received honorable mention by General Washington in one of his despatches.

He was elected a member of the Legislature of Delaware after the organization of the State, and afterwards, from 1795 to 1797, was appointed a Senator in Congress, and reappointed in 1797 for the full term. In 1801, however, he resigned his seat on account of the state of his health, and died December, 1819.

If I have unduly occupied the time of the Academy in presenting these sketches, I ask pardon on the ground of having a respect (which perhaps may be a natural infirmity) for the memories of those venerable men who laid the foundations of our profession in Delaware, and left behind them the evidences of devotion to their profession, to their fellow-citizens, and to the welfare of the nation, by sea and land.

It does not seem just that the memories of such men should pass into oblivion, even elsewhere than in their own State, although the rush and worry of the present age might scarcely stop to look upon their gathered remains. These few mementoes are therefore put together to revive and embalm their virtues for a while, and thus to distinguish them from the throng which have lived and died with no thought beyond the accomplishment of their own selfish purposes.

ARTICLE V.

CASE OF RAILROAD ACCIDENT.—CASE OF ANILINE POISONING. Reported by WILLIAM GOVAN, M.D., Stony Point, N. Y., at the First Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, October 13, 1885.

Case I.—I was called in great haste May 31, 1885, to see Melvin Jones, who had been struck by a railroad train on the West Shore Railroad, in the town of Stony Point. He had been walking on or near the rails on the track, and was struck by a passing train. When I first saw him he had been carried into a house near the track, and was perfectly unconscious. On examination, I found a fracture of the skull upward and backward from the left ear, and a piece of the bone, about three inches long and one inch wide, depressed the depth of the thickness of my finger. When struck by the train he was thrown up about ten or more feet, and came down, striking on his head. He had also an abrasion over the left scapula, and a contused wound on the left arm; pulse 65, skin cool, and temperature below 100. After reaction, by the use of external appliances, had taken place, the patient still continuing unconscious, I ordered six drops of tincture of aconite to be given every five hours. June 2. Patient still unconscious; pulse 80; temperature 95; treatment continued. June 3. Patient still unconscious, but could swallow more readily. Ordered castor-oil, with the aconite continued; temperature not rising above 100. June 4. Having determined, should the patient still remain unconscious, to cut down upon the depressed bone, and try to raise it, to my surprise I found I had been anticipated by the bone having risen, spontaneously: though I feared that this had been caused by the accumulation of blood under the depressed bone, and that death would soon ensue. This, however, did not take place; on the contrary, the patient came, little by little, to himself, as the depressed bone rose to nearly its normal position; pulse 75; temperature 90; respiration 20. Continued the use of the aconite, and also ordered bromide in one-fourth teaspoonful doses, to allay the irritability which came on. June 5. On my visit I found the depression still less, the patient more conscious, and able to speak; pulse 75; temperature 90; respiration 20. From this time the patient gradually convalesced, and is now, to all appearance, in as good health as before the accident; being able to attend to his accustomed work and complaining only of some dizziness when walking fast. What raised the bone?

Case II.—As the medical literature regarding aniline poisoning which I have had access to is very meagre, the following case has been of considerable interest to me:

I was called, September 15, to see Mr. Theodore Taylor, who had been poisoned by aniline oil, caused by the breaking of the carboy which contained the oil, which Taylor and others were removing into the color shop of the Rockland Prints at Haverstraw. On arriving at the house, I found Mr. Taylor in a stupid condition. He complained of great oppression, and pain in the chest, but had lost all feeling when he was touched or had anything applied to the exterior of his body. After he got home he had one or more spasms. Skin cool; pulse 124. He soon became unconscious, breathing heavily, and could not be aroused. I ordered sinapisms to the chest, calves of the legs, and nape of the neck. The patient did not appear to feel any pain or irritation from this application, but continued in a sort of stertorous sleep until about five o'clock of the next morning. As he could swallow, I also had administered a tablespoonful of sweet oil every hour for six hours, and 3-drop doses of the tincture of aconite every two or three hours. After the patient was aroused he felt stiff, but had no pain. The pupils of both eyes were dilated, and the conjunctiva inflamed. Under the use of the aconite and tonics the patient continued to improve, until the morning of the 17th, when he complained of pain in the bladder, and considerable blood was discharged with the urine, this discharge continuing for two days. It was finally arrested by the use of the solution of tannic acid in the tincture of uva ursi. Since then the patient has continued to improve, and is now able to attend to his work at the factory. Did his being poisoned have anything to do with the discharge of blood from the bladder?

[The following discussion of the case of aniline poisoning took place at the meeting.—Ed.]:

The President asked whether Dr. Govan attributed the general anæsthesia to the case to the effect of the oil. The anæsthetic effect of carbolic acid is well known; but it is probably not as generally known in the profession as it deserves to be, that this agent is one of the best possible applications that can be made in case of burns. A few years ago attention was directed to this use of carbolic acid by Dr. Squibb, and he had recently had the opportunity of testing the efficacy of the remedy in his own person. He had quite a severe burn of the finger, which destroyed the true cuticle in one part; but the pain was almost instantly relieved by dipping it in a solution of one drachm of impure carbolic acid (containing 96 per cent. of the acid) to the quart of warm water, as suggested by Dr. Squibb. He had also used it with very happy effect in the case of a little girl, in which the burns covered a very large portion of the surface of the body.

Dr. Govan remarked that the anæsthesia is undoubtedly due to the effect of the aniline oil, and that since he had met with this case he had used the oil very successfully for the purpose of producing local anæsthesia when laying open felons and performing other minor operations. There is absolutely no pain, even in cutting down to the bone, when the finger has first been dipped for a short time in the oil.

Dr. C. S. Wood, of New York, said that, in New York at least, carbolic acid had been very largely used in the treatment of burns ever since Dr. Squibb had called attention to the matter. He thought it probable that the anæsthesia in Dr. Govan's case had been caused by the oil, but that the comatose condition resulted from the inhalation of the vapor of naptha arising from it.

Dr. Rushmore, of Brooklyn, said that Dr. Govan's suggestion to use aniline oil when operating on felons was a most excellent one. There are other agents, such as ice and carbolic acid, which produce a sufficient amount of local anæsthesia, but the trouble with them is that their use is liable to be followed by considerable subsequent irritation.

Dr. E. H. Squibb, of Brooklyn, remarked that the hemorrhage from the bladder in Dr. Govan's case seemed to indicate that the aniline oil was largely contaminated with carbolic acid or other by-products of the coal-tar series, different ones of which were given off at different temperatures. It would be interesting, he thought, to note whether the peculiar effects produced in this case would result from poisoning by a specimen of perfectly pure aniline oil.

ORIGINAL TRANSLATIONS.

TREATMENT OF SUPPURATION OF THE MASTOID CELLS WITHOUT TREPHINING. By DR. LOEWENBERG. Translated from *L'Union Medicale*, by H. McS. GAMBLE, M. D., Moorefield, West Va.

Although diseases of the ear are in themselves free from danger to life, they may, nevertheless, produce the gravest disorders, and even death, because of the complications they are liable to give rise to. Such troubles arise chiefly in the course of chronic otitis media purulenta, or "otorrhœa," one of the most common affections, but generally neglected, or worse still, treated contrary to good sense. Thus, we daily see the cure of this auricular affection, and of many others besides, hoped for at the period of puberty, the advent of which, be it understood, cures no disease of the ear. And while waiting, the years pass by, and we see lesions grow inveterate, and finally become incurable, which, treated in time, could have been cured without trouble. This is true especially of purulent otitis media, which, at the commencement, yields in the easiest way in the world to simple antiseptic treatment, whilst, left to itself, it rapidly becomes chronic, and may then give rise to fatal complications.

In view of the gravity which every case of otorrhœa may acquire at any moment, I insisted, a long time ago upon the importance of the symptom of "discharge from the ear" (for example, in my first memoir upon the "Adenoid Tumors of the Nasal Pharynx, Paris, 1878, p. 75). Otorrhœa would certainly be much less neglected if it was known that it indicated perforation of the tympanum, for the seat of secretion being within the drum the pus can flow out only after having pierced this partition.

In a few extremely rare cases only, and still otherwise grave, matters formed in the mastoid cavities avoid, so to speak, the drum, and empty directly into the auditory conduit, after having perforated the bony wall which separates it from these cavities.

Fortunately, the voice of the specialist is no longer the "vox clamantis in deserto," and light is beginning to be shed upon this point. Mr. Albert Robin, for example, in his interesting competitive thesis, in treating of the cerebral complications which may be produced by affections of the auditory apparatus, sums up the results of the special observations of many authors in expressing himself thus: "It must be admitted that in the majority of cases it is chronic suppurative otitis media, ordinarily designated under the name of chronic otorrhœa, which is the dominant cause of the inflammatory affections of the encephalon. This otorrhœa most frequently succeeds acute otitis media, which passes into the chronic state, in the first place through therapeutical negligence, then under the influence of an improperly directed treatment, etc. The popular idea of a useful issue, the suppression of which will produce the gravest disorders and even diseases of the brain, is a false interpretation of the important fact that the cerebral manifestations of otorrhœa often follow the arrest of the purulent discharge; so they hesitate to treat these cases of otitis. * * * The absence of treatment is, on the contrary, an efficacious agent of this cerebral transmission."

The complications of otorrhœa capable of comprising life are generally occasioned by the extension of the inflammatory process to the organs of the head which are adjacent to the middle ear; thus, there may be caries and necrosis of the temporal bone, meningitis, meningo-encephalitis, phlebitis, and thrombosis of the venous sinuses next to the petrous portion of the temporal bone or of the sinus of the jugular vein, perforation of the internal carotid or of the sinus lateralis, etc. But the most frequent complication of discharge from the ear—often of long standing— is inflammation and suppuration of the mastoid cavities.

Suppurative inflammation of the mastoid process is not only an extremely long and painful affection, but it even compromises life, in a goodly number of cases, by bringing about, in its turn, one of the terminations enumerated above, such as the ultimate extension of the inflammation of the sinuses to the meninges, to the cerebral substance, etc., or even general diseases, such as pyæmia, septicæmia, embolism, and, according to certain authors, even tuberculosis.

In presence of the protracted sufferings and of the dangers entailed by the disease in question, one easily conceives the importance of every therapeutic measure capable of arresting its progress and of preventing its deleterious consequences. But among these means, the specialists, especially those of foreign countries, are inclined more and more to consider as the sole plank of safety *trephining the mastoid process*, instituted with the aim of evacuating the pus and of rendering the diseased cavities amenable to therapeutical applications. A significant fact in the rôle of this operation is, that the year 1884 has seen discussed in the numerous reunions to which it has called the members of our profession, on either side of the Atlantic, the different questions arising apropos of the time to choose for the operation of trepanning, of the surgical methods to be adopted, and of the treatment to be instituted after perforation of the osseous wall. But to my great astonishment, no one has thought of resolving a problem which, from its capital importance, appears to me logically to surpass all the others raised by this subject, a problem which in parliamentary language might be called *the previous question*. In other words, I think that before approaching the discussion of the details of this operation, it will be necessary to ask oneself, *Is it necessary always to trepan or not? The experience of the last six years has demonstrated to me that there exists a large number of cases of grave mastoid disease which may be cured without recourse to this surgical procedure, always serious*, or even to the incision of Wilde, which consists in simply dividing the integuments covering the apophysis.

Whatever a few confrères may think, trepanning of this bone is far from being an operation always easy and free from danger. In many cases, in the first place, it is extremely difficult to lay down the indications for this surgical procedure, seeing that, on the one hand, there sometimes exist the gravest alterations in the interior of the apophysis (caries and necrosis) without any external sign revealing them ; on the other hand, troubles standing out boldly in the integuments of the region and accompanied by violent pains, may cause one to believe in the presence of a profound disease which has no existence.

The greatest difficulties may, besides, arise during the operation and not only prevent its completion—that is to say, the exposure of the purulent centre—but even expose the patient to the greatest dangers. I have already alluded above (Note 2, page 157) to the innumerable varieties which internal conformation of the apophysis may present. The pneumatic, diploic, and compact tissues may be therein represented in the most diverse proportions, often even in a different manner upon the two sides of the same individual. Besides these physiological variations, there are others of a pathological origin ; thus, as regards what especially interests us here, otorrhœa of long standing often occasions a thickening of the cortical layer of the mastoid apophysis or a sclerosis of its pneumatic cells. But the predominant development of the diploic or compact substances may prevent the operator from reaching the focus, for, in penetrating to a depth of more than sixteen millimetres without finding pus, we run the risk of wounding the labyrinth, the aqueduct of Fallopius, and the horizontal semicircular canal.

Again, in certain subjects, the thickness of the osseous tissue existing between the external wall of the apophysis and the internal face of the base of the cranium is found reduced to such a degree that one risks cutting into the lateral sinus or the dura mater at the first stroke; a preparation of M. Politzer even shows this sinus covered by the skin only! Besides, this or the dura mater may be wounded by pieces of bone, and this accident, which often escapes the attention of the surgeon, may lead to the death of the patient.

Although the employment of the antiseptic method has taken away from these accidents incident to operations a portion of their gravity, their possibility, which no one could foresee before the operation, renders it desirable to find a less difficult procedure and one not exposing the operator to any of these terrible mistakes. But the method the principles of which I am going to trace further on realizes these advantages: It will be preferred so much the more willingly to trepanning in a very large proportion of cases if I add that it often accomplishes a cure in the space of one or two months, whilst, according to M. Schwartze, who has certainly the most frequently performed the aforesaid operation, the latter cures the patient on an average in nine to ten months, when it cures at all. In avoiding the operation of trepanning, we moreover save the patients from fistules in the apophysis, often incurable, and which, when they do finally get well, leave deep, horrible cicatrices, objects of disgust, especially in women.

This is now an *exposition of the method* which I have adopted for the treatment of these very embarrassing cases, and the results which I have obtained: The treatment by which I have succeeded in curing many cases of inflammation and suppuration of the mastoid cells, without having recourse to the trepan, is based, in the first place, upon the elementary principles of general surgery, and, in the next, upon the antiseptic method, such as the results of my previous microbiological researches have led me to adapt to special circumstances.

This is the point which I have borrowed from general surgical principles: Every time that there exists a collection of pus in a natural cavity or in one of pathological origin, it is the rule to give issue to the liquid by incision or puncture, a principle which we apply every day in otology in perforating the membrane of the tympanum in order to give exit to the fluids within the drum. In applying this principle to the subject now engaging our attention, that is to say, in piercing the tympanum in order to let out the matters confined within the mastoid cavities, my object is to utilize the natural route for their escape, the communication which exists between these cavities and the cavity of the tympanum; the perforation of the membrane of the tympanum practiced under conditions yet to be explained thus plays a preponderant rôle in the treatment by which I propose to combat suppurative inflammation of the mastoid process.

Trepanning of the apophysis creates equally a drain for the matters, but surgical instinct counsels us evidently to establish it at the price of the least possible injury; for while this operation creates a considerable traumatism, the simple piercing of the tympanic partition is an altogether insignificant operation. The same is true likewise of enlargement of the perforations which generally already exist in these cases.

As to the second point, one generally passes silently over the necessity which I believe I was the first to bring out, *of not being contented with the fact of the existence of a perforation of the tympanum, artificial or created by nature, but to secure to the accumulated fluid a door of escape sufficiently large and sufficiently well placed for the free discharge of the matter.* I set forth this indication for the first time in a general way at the International Otological Congress of Milan (1880), and I have had the satisfaction of seeing my views quoted and sustained by my learned friend M. Bezold.

I have further developed my ideas in applying them to the diseases of the mastoid process before two medical congresses in which I took part in England in 1881. At the annual meeting of the British Medical Association, held at Ryde (Isle of Wight), I said this (extract from the proceedings, which I translate literally): "Dr. Loewenberg thinks that it is necessary as far as possible to avoid opening the mastoid apophysis. Many cases of mastoid inflammation are due to the insufficiency of the opening existing in the membrane of the tympanum, so that the matters secreted in the drum are forced to flow back into the mastoid cells."

At the International Medical Congress of London (same year) I said this (see reports of proceedings*, which I translate textually): "I am astonished to see that in the discussion upon the opening (artificial) of the membrane of the tympanum, one of the most important classes of cases is not mentioned, to wit, the necessity of enlarging an opening in this membrane for the purpose of relieving the inflamed mastoid cavities." (My language has been badly enough reproduced in this report, be it said in passing; among other mistakes they have put "adenoid" instead of "mastoid," a confusion due probably to the recollection of the introductory discourse which I had delivered at this Congress upon the adenoid vegetations of the naso-pharyngeal cavity.)

But many authors have recognized the importance, in the genesis of mastoid inflammations, of the absolute retention of the pus caused by polypi or sequestra, whether of the conduit or of the drum; but, as far as I know, no one has thought of that arising from simple insufficiency of an already existing drain, and which might be called *relative retention.* I mean by this designation the pathological condition in which a cavity produces pus too rapidly for it to escape as fast as it is formed, and in which it remains subjected, from this very fact, to an excess of pressure. I imagine, moreover, that this latter may favor the penetration of micro-organisms, or of the deleterious products elaborated by them in the midst of the stagnant matters (ptomaines) into the lymphatics or blood-vessels, and I am inclined to think that this is one of the causes of the grave complication enumerated above. Perhaps, along with conditions of quantity, we ought to admit special qualities, such as a peculiar density or viscosity of the secreted pus; but I do not wish to enter farther upon the domain of hypothesis.

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* Transactions of the International Medical Congress, London, 1881, vol. III., pages 341 and 351.

Once these views are accepted, the therapeutic route to be followed is found clearly traced. We should not be contented with the existence of a perforation, natural or artificial, but inquire whether it suffices or not for the free discharge of the matter.

I have had occasion to put into practice the principle which I have just developed in a series of cases in which the mastoid troubles arose manifestly from the fact that the perforation of the tympanum, spontaneously formed, was too small, or *too highly situated.* For this reason the pus could not escape at the same rate in which it was formed, whether in the mastoid apophysis itself, or from the drum from whence it overflowed into this adjacent region, or finally in both cavities at the same time. In all cases of this kind I have enlarged the perforation of the tympanum, or even made a second opening below the first. The excellent results thus obtained in a large number of cases, some of which will be described further on, have demonstrated the correctness of this reasoning. In proceeding as I have just indicated, we obtain at the same time another object not less important than the free discharge of the pus, that of opening to the therapeutical agents, applied by injections, insufflations, or instillations, an easy access to the diseased parts: drum and mastoid appendants.

A sufficient opening once created, one will likewise have greater facility for executing a therapeutic manœuvre due to Toynbee, and which consists in introducing through the perforation, into the drum, a curved tube, by means of which one will be able to cast the injections directly towards the entrance of the mastoid cavities.

The tympanic perforations, artificially established, having often, in spite of the afflux *à tergo*, an irresistible tendency to close up prematurely, it is important to be careful to keep them open sufficiently, and for a considerable length of time. Here I have much reason to congratulate myself upon the use of the galvano-cautery; whether for the purpose of making these openings, or of enlarging them: it is, moreover, by aid of this instrument that I practice perforation of the tympanum; for example, in cases of acute otitis media, with accumulation of mucus or pus behind a tympanum still intact. We often save the patient long suffering by practicing perforation of this partition, instead of leaving it to nature.

The insufficiency of the tympanic opening, or the bad place that it occupies, does not constitute the only obstacle that may hinder the flow of the pus and the therapeutical applications. I have already spoken of the vegetations and the polypi which sometimes narrow the lumen of the auditory canal, or conceal fistulous openings, and of the sequestra which may obstruct the meatus. In other patients the walls of this canal are undermined by the pus, and form a sort of prolapsus within its interior. It goes without saying that I have had to take account of the indications created by all these obstacles. I have destroyed the vegetations by the galvano-cautery. I have extracted the sequestra from the conduit, and I have divided the prominent parts of the walls which obstructed the canal.

If the curative measures which I have just exposed constitute, in substance, only a special adaptation of very old and purely elementary surgical principles› *per contra*, the *second part of my therapeutical procedure* utilizes for the ear an ensemble of applications of the antiseptic method. I have drawn these indications from microbiological researches, allied to those which I have instituted upon furuncle of the ear and furunculosis, but bearing especially upon the pus produced in purulent otitis media (otorrhœa). These investigations have demonstrated the constant presence of micrococci in this affection. I reported my results for the first time at the Second International Otological Congress (Milan, September, 1880). I afterwards briefly summed them up in a very succinct note, which Professor Marey very kindly presented to the Academy of Sciences, and which is found reproduced in the proceedings of that learned body.

The results of these researches have been set forth *in extenso* only in a special international publication (appearing in English and in German). Although a few medical journals have given some extracts from them, and the thesis of M. Albert Robin, already cited, contains a résumé of them, the facts which I have discovered have, so to speak, passed unnoticed in France; but, as they form the base of the therapeutical measures which I have still to describe, I find myself obliged to recapitulate them briefly.

In conformity with what takes place in the organism in general, suppuration is accompanied in the middle ear, also, with the pullulation of microbes, and I have constantly met with tolerably fine and very abundant micrococci in otorrhoea. They are often associated under the form of zooglœa, constituted, as is known, of microbes agglomerated together by an amorphous mass.

I have often found in purulent otitis media the *débris* of the epidermis, and little drops of pus removed from the ear enveloped on all sides with zooglœa. M. Ferdinand Cohn, the celebrated botanist of Breslau, explains the genesis of this form by the imbibition and swelling of the membranous envelopes of the cocci. For reasons set forth in my work, this hypothesis—moreover, universally adopted—has appeared to me unsatisfactory, and I have substituted for it, with all the deference due to its distinguished author, the idea that the mass which unites the cocci together might be, on the contrary, the product of an exudation or secretion proceeding from these microbes. To the arguments that I have supported in my work in behalf of this hypothesis, I will add here that I have found the zooglœa even in matters almost completely dried. Under these conditions we certainly could not admit the excessive imbibition of the cellular membranes of the cocci, which would presuppose, on the contrary, a superabundant hydration.

As to the pus formed in otorrhœa, it is by no means fœtid in itself, contrary to the general opinion, but it becomes so only too frequently, thanks to the habitual negligence which leaves it stagnant in contact with the air and with its rich flora of germs. Fortunate still if irrational therapeutic measures do not come to carry aliments to these latter under the form of substances eminently putrescible, such as milk, vegetable infusions or decoctions, etc.

When there is advanced decomposition, accompanied with fœtor, the pus often contains, besides cocci, some bacteria, as I have shown in my work, in which are found likewise the results of my artificial cultures.

(*To be concluded.*)

SELECTIONS.

ELEMENTS OF PROGNOSIS IN BRIGHT'S DISEASE.* By AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine, and of Clinical Medicine, in the Bellevue Medical Hospital College, New York.

In the popular mind, the name Bright's disease, at the present time, has a prophetic import not unlike that of a verdict of conviction after a trial for life. It is regarded as a hopelessly fatal malady; more hopeless indeed than the condition of one condemned to execution, inasmuch as in the latter case there may be the prospect of a new trial or a hope for pardon. This prevailing impression, like other popular impressions relating to disease, reflects the views of the medical profession. By the latter, Bright's disease, in its chronic form, is generally regarded as a disease from which recovery is not to be expected, a fatal termination taking place invariably sooner or later. This view of the prognosis is not far from the truth. It may be said, perhaps, to be a view which accords with our present pathological knowledge and clinical experience. But the scope of prognosis is not limited to a recovery from a disease. A disease may involve more or less irremediable damage of important organs; but after having advanced to a certain extent the damage may not become greater, and the portions of the organs which remains unaffected may be sufficient for all the purposes of life and a fair state of health. Or, again, a disease may be progressive, but the progress may be so slow as not to interfere with a long duration of life and a certain degree of health. A chronic disease may persist, and, remaining stationary, life is not endangered by the disease *per se*, but danger may be dependent on associated affections which may, or may not, have a pathological connection with the antecedent disease. Or, still again, a chronic disease may be well tolerated indefinitely, provided other conditions pertaining to health are favorable, but proving fatal if other conditions, which we may call accessory, be unfavorable. These are considerations embraced properly within the scope of prognosis, using this term in its comprehensive sense. In this paper I propose to offer some remarks on the elements of prognosis in Bright's disease, taking into view not alone the intrinsic tendency of the disease, but the considerations just referred to. To be able to foresee the progress and issue of diseases in individual cases, is something more than an interesting professional accomplishment. It is of importance as regards the regulation of the private affairs of patients and their friends. Of still greater importance is the bearing, often, of prognosis on the treatment of diseases. I shall have occasion to refer to some points pertaining to the last-named aspect of the subject of this paper.

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*Read before the New York County Medical Association, November 16th, 1885.

The prognosis in Bright's disease has relation to the form or variety of the disease. Is the disease acute or chronic? This question is not always readily answered at the bedside; but I do not propose in this paper to enter into the subject of diagnosis. Assuming the existence of acute Bright's disease, experience teaches that, exclusive of important concomitant affections, the disease does not end fatally as a rule, and, moreover, as a rule it does not eventuate in any renal lesion; in other words, the acute is not followed by a chronic form of the disease. Exceptionally the acute disease proves fatal, or it continues in a chronic form. The points bearing on the prognosis in individual cases are essentially the same in the acute and the chronic forms. These will be referred to in connection with chronic Bright's disease. There are cases of Bright's disease in which the disease cannot with propriety be said to be acute, inasmuch as there are new symptoms denoting acuteness of inflammation, but in other respects corresponding to the acute form. The disease in these cases is of temporary duration, and ends in recovery, no evidence of renal lesion remaining. These are cases which, as it seems to me, have not received sufficient attention by medical writers.

The several designations of acute Bright's disease, namely, acute diffuse nephritis, acute tubal nephritis, acute desquamative nephritis, etc., may be applied to these cases by substituting for the word acute, sub-acute, as distinguished from chronic. The clinical history is the same as in the acute disease, except that the symptoms denote a sub-acute inflammation, and, anatomically, the disease in these cases differs from the severe forms of chronic Bright's disease in the fact that there is no persistent renal lesion.

In a certain proportion of the cases in which acute Bright's disease is said to accompany or follow scarlet fever and other infectious diseases, the inflammation is sub-acute. Occurring in other pathological connections, or when it is a primary affection, if unattended by œdema of the face or limbs, it is likely to be overlooked by those who do not observe the rule to examine the urine in all cases, whether or not the symptoms point to renal disease. If ascertained, the problem in diagnosis and prognosis is to determine whether the affection be a sub-acute diffuse, or tubular or desquamative nephritis, or whether it be a chronic form of Bright's disease? This problem is not at once easily solved. It can only be definitely solved by the disappearance of all the evidences of renal disease after some weeks, and the recovery of health.

A diffuse tubular or desquamative nephritis, either acute or sub-acute, not infrequently occurs as an intercurrent event in connection with chronic Bright's disease. The latter affection, prior to the occurrence of the intercurrent nephritis, may have been latent, as regards symptoms other than those pertaining to the urine, and it may again become latent after recovery from the intercurrent inflammation. Here is a problem which cannot at once be definitely solved, namely, whether the existing symptoms such as coma and convulsions, dropsy, etc., are, to a greater or less extent, referable to the progress of these chronic affections, or whether they denote an intercurrent acute or sub-acute inflammation. The bearing of this problem on the prognosis is obvious. The occurrence of an intercurrent nephritis in certain cases explains the development of grave symptoms from which recovery takes place, leaving the patient in the state of health which previously existed.

A practical point, relating to prognosis, after recovery from either acute or sub-acute diffuse nephritis, is the existence of a susceptibility of the uriniferous tubes to causes of inflammation. This susceptibility remains after recovery, rendering the patient liable to recurrences of the affection. This holds true whether the nephritis be a primary renal affection, or whether it be developed in connection with chronic Bright's disease.

I proceed to notice some of the elements of prognosis in cases of chronic Bright's disease. The latency in certain cases of Bright's disease for a long period, as regards any important symptoms exclusive of evidences afforded by examinations of the urine, is a most important clinical fact. What are the conditions requisite for latency? *First*, the kidneys must not be damaged beyond a certain extent. Nature has been bountiful in these as in other organs. Inasmuch as it has been demonstrated that one kidney may suffice for the adequate performance of the renal functions, it follows that a lesion may have impaired the functional power of the organs at least one-half, without necessarily giving rise to important symptoms of disease. *Second*, the important organs of the body other than the kidneys must be capable of performing satisfactorily their respective functions. The functions of the digestive, the circulatory, the respiratory and the nervous system must be fairly maintained. *Third*, the laws of health, relating to alimentation, exercise, exposure to cold, mental excitement, and habits of life, must be observed. Now suppose these, as we will call them, accessory conditions to be fulfilled, and a lesion of the kidneys to exist which diminishes their functional ability one-half, and the disease not to be progressive; life and health are compatible with the existence of chronic Bright's disease for an indefinite period. Mark the practical conclusions to which this view of the prognosis leads. In order that a chronic Bright's disease shall be well tolerated, provided the lesion has not reduced the ability of the kidneys to perform adequately their functions, the objects of treatment relate to the accessory conditions required for toleration—to wit, the conditions relating to other organs of the body, and to hygiene. We may assume the necessity for these conditions, inasmuch as the utmost limit of the functional capacity of the kidneys being constantly required, any disturbances elsewhere in the economy will be likely to involve overtasking of these organs. The situation may be compared to that of pulmonary emphysema leaving no reserved capacity of the lungs. Respiration is adequately performed if there be no unusual demand upon this function; but the pulmonary organs cannot meet any extra demand without more or less distress.

A patient comes to a physician complaining of some one of the minor manifestations of uræmia, such as headache, nausea in the morning, misty vision, or of a little œdema of the face and limbs, either with or without uræmic symptoms; or it may be that he complains only of impaired appetite and general debility. An examination of the urine shows the existence of chronic Bright's disease. Now chronic Bright's disease has probably existed in this case for months, and perhaps for years. During this period the damage to the kidneys has not been sufficient to render the organs incapable of performing their functions adequately. They who are in the habit of examining the urine in all cases which come under their observation, not infrequently find the evidence of chronic Bright's disease when no symptoms pointed thereto. It may be many months or many years in these cases before the manifestations of the disease appear. I could cite cases illustrative of the latter statement. At length, the progress of the renal affection, or unfavorable accessory conditions, renders the kidneys incapable of performing their functions adequately, and then appear symptoms which point to an affection of these organs. Hypertrophy of the heart without valvular lesions, and irrespective of pulmonary disease, is generally a result of a renal affection which must have existed for a considerable period. Now it is not uncommon to find cardiac hypertrophy when there has been nothing to create suspicion of an affection of the kidneys. Again, a person is seized with apoplectic coma and convulsions when apparently in good health. An examination of the urine shows Bright's disease, which must have existed for a greater or less period. Instances of this kind have come under my observation.

These facts teach that so long as the kidneys are not damaged sufficiently to render them incompetent to perform their functions adequately, and so long as the accessory conditions which have been referred to are favorable, Bright's disease is well tolerated; that is, the disease is latent as regards any appreciable manifestations irrespective of an examination of the urine. The facts teach, moreover, that if the existence of the disease be known, the objects of treatment are to prevent, if possible, further increase of the renal damage, and to make all the accessory conditions as favorable as possible. The prognosis is favorable in just so far as these objects of treatment are attainable. With reference to these objects the desirability of as early a diagnosis as possible is obvious.

The question now arises, how is the adequacy of the functions of the renal organs to be ascertained, irrespective of any obvious symptoms which are suggestive of inadequacy? The answer to this question, of course, relates to examinations of the urine. Is it an injustice to medical practitioners to say that examinations of the urine often have regard only to the inquiry as to the existence of Bright's disease, and to the form of the disease which exists, overlooking the importance of ascertaining the sufficiency of excrementitious elimination? The latter is the important object of the examinations with reference to prognosis. Are not examinations often limited to specimens consisting of a few ounces of urine, the quantity passed in a given time being imperfectly known, and, perhaps, not made an object of inquiry? The amount of albumen excreted and the number and variety of tube-casts are important with reference to the existence and the form of Bright's disease, but it is generally of much more importance to obtain information respecting the adequacy of the renal functions. I have frequently been struck with the fact that in examinations of the urine the specific gravity has not been taken into account. Albumen and casts in the urine show that the kidneys are doing what healthy organs ought not to do; but the more important inquiry is, are they doing what healthy organs ought to do? The kidneys may eliminate in abundance excrementitious products although albumen and casts are present abundantly in the urine, and, *per contra*, the elimination of these products may be more or less inadequate, although the urine may contain little or no albumen, and casts are wanting.

Inattention to the adequacy of the renal functions must be attributable to a lack of appreciation of the importance of this point of inquiry, inasmuch as information respecting this point is readily obtained. It suffices generally to ascertain the amount of urine passed in twenty-four hours, and to employ the urinometer. The quantity and the specific gravity are data for a rough estimate of the excrementitious products, but, practically, the estimate is near enough to accuracy. It is certainly not too strong an assertion that to be satisfied with the information that the quantity of urine is normal, without knowledge of its density, in cases of Bright's disease, is a culpable neglect. An apology may seem to be required for saying that the quantity of urine may be much increased, but with a specific gravity so low as to involve great danger from uræmic toxæmia; yet I can recall a case in which, under such circumstances, a practitioner had assiduously striven to lessen the amount of urinary secretion!

The prognosis, based on renal inadequacy relates, of course, to the liability to grave uræmic consequences. The object of treatment is to avert these by measures, either to increase the excretory action of the kidneys, or to promote the vicarious elimination of the urinary constituents, and perhaps, also, to render the system tolerant of the over-accumulation in the blood of these constituents. The last of these three indications I have been led to believe may be in a measure fulfilled by opium; but the discussion of this point would be here out of place. Let it be supposed, that notwithstanding the evidences of Bright's disease, examinations of the urine afford proof of renal adequacy; what bearing has this fact on the treatment? The indication for diuretics, hydragogues and sudorifics is certainly wanting under these circumstances. I submit the inquiry whether it be not an error in practice, too often committed, to employ diuretics, hydragogues, and sudorifics in cases of Bright's disease when these are not indicated? And if not indicated, inasmuch as they are more or less perturbatory and debilitating in their effects, they are, of course, contra-indicated. I will cite for illustration a case which has come under my observation since I began to write this paper. A man about fifty years of age, of good habits, but for a long period overworked by his duties as a banker, for the last year or longer had felt a lack of his usual energy and endurance. In other respects he had no special ailments. There were no symptoms pointing to uræmia. He had noticed an increased quantity of urine. Two examinations of the urine showed a specific gravity of 1003 and 1008, and albumen small in quantity in the first, but considerable in the second examination. Casts were not discovered at either of these examinations. The quantity of urine furnished for the second examination had been passed in twenty-four hours, and amounted to eighty-six ounces.

What were the indications for treatment in this case? There was not renal inadequacy. Diuretics were certainly not indicated. It was probably an object in the treatment to relieve the kidneys, in a measure, of the burthen of their functions by providing for some elimination by the intestinal canal and the skin, but employing for this object measures which are neither perturbatory nor debilitating. The great objects in the treatment were, evidently, prevention of further progress of the renal affection and promotion of tolerance. I presume that it will be admitted we have no knowledge of any special remedies for the first of these two objects. The treatment, therefore, must have reference to accessory conditions and to hygiene. As regards the prognosis in such a case, it relates to non-progression of the renal affection and to tolerance. Under favorable circumstances, life and a fair amount of health may continue for a long period.

Is the degree of renal inadequacy, as determined by examinations of the urine, reliable for judging of the absence of danger from uræmia? This question must be answered in the negative. In some cases of Bright's disease the quantity of excrementitious principles in the urine are notably diminished for a long period without the development of serious uræmic consequences. The explanation is, that these principles may be vicariously eliminated, or their accumulation in the blood takes place without toxical effects, because the system becomes accommodated to them, as opium or arsenic may be introduced in large quantities innocuously as a result of their habitual use. On the other hand, in some cases a moderate diminution of the excrementitious principles of the urine is followed by serious uræmic consequences, their vicarious elimination being inadequate, and toleration not having been acquired by habit. These facts are to be taken into account, in individual cases, with reference to prognosis.

The prognosis in cases of uræmic coma, incident to chronic Bright's disease, is always grave. Yet, every practitioner of much experience has met with instances in which the attacks have been severe, prolonged, and repeatedly recurrent, without proving fatal. This fact shows conclusively that in these instances something is added to the chronic renal affection. This something may be an intercurrent inflammation, acute or sub-acute, to which I have referred in the first part of this paper, or it may be referable to what I have termed the accessory conditions involved in the toleration of the renal affection. The fact, it is needless to say, is of much importance as furnishing a powerful motive for the employment of efficient measures to avert impending danger. Of acute pulmonary œdema the same may be said as of uræmic coma. In my experience, thus far, of the grave manifestations of uræmia, the greatest is dyspnœa, called by some writers "renal asthma," which is independent of any pulmonary affection, and attributable to a toxical effect upon the respiratory centre in the nervous system. I cannot recall an instance among the cases which have come under my observation, in which this symptom has not been the precursor of a fatal termination. I have known, however, life with fair health to continue for years after an attack of acute pulmonary œdema incident to chronic Bright's disease, and apparently for a time placing life in imminent danger.

In this brief paper I have introduced topics which might readily have led to a much more extended consideration than I have given to them. My purpose has been, not to consider these topics as fully as their importance claims, but to offer them for discussion by those present at this meeting. In order to allow time for their discussion, I have designedly limited the length of my paper. In conclusion, I will recapitulate the points, to which is invited the attention of those who are to engage in the discussion.

1. Acute Bright's disease, as a rule, does not tend to a fatal result, nor to eventuate in a chronic affection.

2. A sub-acute diffuse nephritis having the same seat and character as acute Bright's disease, exclusive of acuteness, occurs not only after scarlet fever and other infectious diseases, but irrespective of these. Occurring in other pathological connections, or as a primary affection, it is liable to be overlooked, and, if recognized, it is liable to be mistaken for a chronic form of Bright's disease.

3. Acute Bright's disease or a sub-acute diffuse nephritis not infrequently occurs as an intercurrent affection in the course of Bright's disease.

4. A susceptibility to the causes of inflammation of the uriniferous tubes, irrespective of the existence of chronic Bright's disease, is to be recognized as an individual peculiarity.

5. Chronic Bright's disease may exist as a latent affection for an indefinite period, provided the danger to the kidneys is no more than an equivalent to the loss of one of these organs, and provided the functions of the other organs of the body are well performed, and provided the laws of health are observed. The disease may be well tolerated so long as the renal affection does not progress, and the accessory conditions are favorable.

6. The adequacy of the functions of the kidneys has relation chiefly to the amount of excrementitious elimination of these organs, and this amount may be determined with sufficient exactness by ascertaining the specific gravity of

the urine and the quantity in a given time. If there be not inadequacy, the treatment by diuretics, hydragogues, and sudorifics is not only uncalled for but hurtful.

7. The danger from the accumulations of the constituents of the urine in the blood is not in all cases determinable with accuracy by ascertaining the amount of renal inadequacy, owing to variations in the efficiency of vicarious elimination, and in the tolerance, from habit, of these constituents.

8. Uræmic coma, occurring in cases of chronic Bright's disease, may be incident to an intercurrent temporary nephritic inflammation or to accessory conditions, so that if impending danger can be averted, restoration to the state of health which existed prior to its occurrence may be hoped for. This statement applies also to acute pulmonary œdema.

9. Renal asthma is generally, if not invariably, a fatal prognostic.—*Journal of American Medical Association.*

FOURTEEN DAYS WITH PASTEUR. BY FRANK S. BILLINGS, D. V. M. Late Pathologist to the New York Polyclinic School of Medicine.

The writer was selected by Dr. H. C. H. Herold, President of the Board of Health of Newark, N. J., and by Dr. Wm. O'Gorman, of that city, to accompany to Paris four boys who had been bitten by a *supposed* rabid dog, in order that they might have the advantage of the preventive treatment of M. Pasteur. As the parents of the children had not sufficient means to send them, Dr. O'Gorman, a gentlemen of great benevolence, and enjoying the first position among the practitioners of Newark, resolved that they should be sent, and opened a public subscription which was liberally supported by many benevolent citizens of that city and elsewhere.

The names of these children were William Lane, fourteen; Austin Fitzgerald, ten; Patrick Reynolds, ten; and Eddie Ryan, five years old. They were bitten on Dec. 2, 1885, and all by the same dog. The wounds of Lane and Reynolds were upon the hands, and under ordinary circumstances would be thought nothing of, but, as it is well known, the smallest wounds in case of rabies are even more to be feared than larger ones that bleed freely; and again that the percentage of rabies in human beings actually resulting from the bite of a rabid dog has been found to be greater for the superior extremities and the face than for other parts of the body, on account of their being generally unprotected by clothing. The little Ryan boy was bitten quite deeply in the elbow of the right arm, probably by the teeth of the dog, but at the same time the teeth had to penetrate through an unusually thick and felt-like piece of cloth with which the arm of his winter coat happened to be patched at this point. The Fitzgerald boy was not only the most delicate of the four, but was also the most severely bitten; one wound being upon the hand, the thumb having been penetrated very deeply at its base. The other bite was in the gluteal region, and was accompanied by considerable laceration and free bleeding; naturally, the teeth had penetrated through clothing also. Two other children were also bitten by the same dog, but as they were not sent to Paris and were never seen by the writer, but little can be said about them; still, as the whole escapade was an experiment, it is very well that they were left behind as controls, but we must earnestly hope they are in no danger thereby. At about the same time of the day these children were attacked, the same dog was said to have bitten several other dogs, six of which have been discovered and are still in close confinement under veterinary supervision, by order of the Newark Board of Health.

It is greatly to be regretted that so much of hypothesis is connected with these cases as regards the true nature of the trouble with the dog. Indeed, so much contradiction exists that one can scarcely say what kind of a dog it was, but from all that can be culled from these stories, it seems that it was a middle-sized, shorted-haired dog, probably with some pointer in his breeding.

The following facts tend to support the hypothesis of rabies:

The dog was certainly in a state of the most intense cerebral excitement. Unlike an ugly, biting dog, he did not stop to tear up or continually bite, or fight with either the children or with the dogs bitten by him. In his frenzy he simply snapped at such living objects as were directly in his way, making a quick snapping bite or two, scarcely stopping to shake the children at all, and then making off; it was not long before he was followed by a small army of would-be-destroyers, and was finally found in a back yard on a shed, trying to gnaw his way through the surrounding board fence. There he was shot, and found his way to the knackers without any autopsy having been make.

This history, however, is sufficient to have warranted the Newark authorities looking upon the case with the utmost suspicion, especially as there had been several genuine cases of rabies canina and hydrophobia in the city and vicinity a short time previously. One was especially instructive, as it illustrates the circumspection with which sympathetic people should avoid demonstrations to stray and suffering curs upon the street. The lady in question, on passing down a street, saw a small dog by the curb in apparent suffering; she stopped to pat and sympathize with it; the dog snapped at her, merely drawing a little blood from the hand; she died under terrible suffering within two months from that day. The writer knows of two similar cases in the vicinity of Newark, and there had been quite an unusual number of suspicious dogs killed before this accident.

There can be but little sympathy from scientists with the excitement kept up by the papers; still some good will come of it, and, as some assert, only by such a course is it possible to attain much support from the public for the advance of preventive medicine.

The children sailed on the Steamship "Canada" of the Companie Générale Transatlantique, on Wednesday, December 9, 1885, the Company also taking a liberal part in the general benevolence by placing them in the second cabin both to and from Paris. They were treated with great consideration; and all of them showed most pleasing indications of physical improvement. The passage over, as well as the return upon the same ship, was wonderfully pleasant.

The "Canada" arrived at Havre December 21st, the passengers being directly transferred to the cars of a special train for Paris, where they arrived at 4 P. M. It is but a matter of simple justice to state that the expedition with which the children were placed under treatment, as well as the saving of the writer and them from any amount of extortion, was largely due to the kind and continued attention of Mr. J. H. Haynie, whose very interesting and complete letters have appeared as from the "Special Paris Correspondent," in the *New York Times*.

The children were at once taken to a hotel, from which they were subsequently removed in order to give them every comfort and care possible. The writer immediately proceeded to M. Pasteur's laboratory, and induced him to place them under treatment that very evening, for it seemed in this case that "time was (not only) money," but might be life as well. Not being a physician, and the operation involved being a surgical one, M. Pasteur does not do it, but has it done by Dr. Grancher, Professor in the University, and the most noted clinician in children's diseases of the present French school. It is scarcely necessary to say that Grancher, like Pasteur, gives his services free of all remuneration so far as this treatment is concerned, save the grand satisfaction of devotion to the salvation of the race from one of the most terrible diseases known to man.

The inoculation, or rather the introduction of preventive material, is done with the ordinary hypodermatic syringe, the point of inoculation being the umbilical region. The operation is never done on the same side two days in succession. For children under twelve or fourteen years old one-half a syringeful of the fluid is used, for adults nearly the entire contents. The instrument is never emptied completely, one division of the piston being always left. This is probably done so as not to inject the thickest part of the contents; for the material is not filtered. One would expect to see some irritative reaction following the injections, but this does not generally result in the case of the first five or six, but with the last two or three, especially the very last, when the most active virus is used, a distinct hyperæmia at the point of inoculation resulted, which disappears in course of forty-eight hours. No disturbance of the functional activities followed in any of the children. Whether or not any augmentation in the temperature occurred it was impossible to ascertain from the unsatisfactory hotel conditions under which they were first placed. The number of inoculations varies in general from ten to fourteen, according to the age of the patient and the irritative reaction following the introduction of the stronger virus toward the end of the treatment.

The treatment began December 21st, 1885, and ended January 1st, 1886; the children were, therefore, inoculated *eleven* times, with the exception of the youngest, Eddie Ryan, who received the virus but *ten* times.

The children sailed from Havre on the evening of January 2nd, and arrived in New York January 14th, 1886, during the whole of which time they were perfectly well.

M. PASTEUR'S DISCOVERIES.

Pastuer assured me that he had never been able to isolate, cultivate, and produce a microbic virus capable of producing rabies in any animal. He assumes that a specific microbe must be present, but neither he nor his extremely able assistant, Dr. Roux, has been able to prove its existence. It seems to me to be one of the failings of Pasteur to have no confidence in the correctness of any work done by others except in his own laboratory. While in Paris a communication was received at the Academy to the effect that Fol, of Geneva, had succeeded in staining a specific coccus in the cerebral tissues of rabid animals, and had cultivated it and produced rabies with it. Whether or not this is correct, I have no means of judging, not having seen the original communication from Fol, but it was at once asserted to be "impossible" in the laboratory of M. Pasteur, simply because they had not been successful in the same direction.

Such things do not deteriorate from the grandeur of the work already done, which began with the study of the ferments with reference to beer and vinegar, followed by the researches upon the silk-worm disease, which have resulted in saving millions of dollars to France. Pasteur next turned his attention to some of the contagious diseases of animals, the first being fowl cholera, then anthrax, rouget, and finally rabies. The first three are known to be due to specific microbes. The work of Pasteur has not, however, been that of a bacteriologist in the strict sense, but, filled with the idea that a preventive virus could be made from the elements of such diseased organisms, he has worked more from the methodical standpoint of the chemist than from that of the bacteriologist. Still, with anthrax and fowl cholera he has shown that a virus, or rather two, can be obtained capable of producing a period of immunity for at least one year (anthrax), and for hog cholera, a disease of far more interest to us in America, he has also shown that a virus can be prepared which will give the inoculated animals a certain degree of immunity. With reference, however, to hog cholera, the results are by no means so satisfactory at present as in anthrax. There seems to be a far greater difference in the susceptibility among the different breeds of hogs, with regard to the virus, than in cattle with anthrax. Much may be done in this field, for the work of experimentation has ceased at Pasteur's laboratory since the death of the lamented Thuillier, the whole time of those laboring having been given to the study of rabies.

Pasteur seems to have found that every virus *may* be rendered a vaccine under some peculiar manner of treatment; such as the continued exposure to a certain degree of heat for a given time, or to the action of the air, or to desiccation. Bacillus anthracis, for instance, develops spores at a temperature of 37° C., but at over 40° this spore development ceases, there being a very rapid development of very short rods by fission. It has been found that if a spore cultivation of bacillus anthracis is sown in bouillon placed in a thermostat at 43° C., and kept clear, that, notwithstanding the fact that a development of rods occurs, the fluid gradually loses its virulence until, at about the fifteenth day, it causes no effect upon an animal that it would at first kill. Such a bouillon constitutes a primary vaccine against anthrax; one that has been exposed to the same degree of heat for about nine days constitutes a secondary; and a freshly sowed one of one day old, at a still lower temperature, constitutes the primary vaccine.

Now here comes the peculiarity of all these artificial vaccines which constitutes fully as great a discovery on the part of M. Pasteur as that of their practical application, viz.: Each virus retains the same virulency so long as we continue making artificial cultivations in bouillon from it. Having established the fact that a bouillon cultivation of bacillus anthracis had either a negative or very weak action after exposure to a heat of 43° C. for fifteen days, it has been found that, with due precautions against adventitious pollution, we can go on and seed bouillon flocks indefinitely from the primary one, and always have a virus of the same degree of activity. The same is true of the secondary, or stronger, and the tertiary, or strongest, vaccine virus. On the contrary, if we then take a rabbit and inoculate with this primary or weak vaccine virus, and go on directly from one rabbit to another, it has been found that in course of time we again arrive at a material having all the characteristics and virulency of the original and natural material.

Another singular fact has been established by Pasteur with regard to the etiological elements of several diseases. In rabies he has found that when the same material from a rabid dog is carried through monkeys, it soon loses its virulency, while if carried through rabbits, its activity is augmented. We shall return to this subject immediately. In hog cholera, the infectious elements become ameliorated in virulency when passed through rabbits, but augment when passed through pigeons.

Here, again, we come to the same rule: an artificial cultivation made in bouillon from one of these rabbits or pigeons which was killed at a certain number of days, retains that characteristic so long as such cultivations are made, but the moment we again carry it through a series of either animal, it soon follows the course which has been found peculiar to the species used.

I will close this part of the subject with a few remarks of the impression made upon me by M. Pasteur, and about his laboratory, and then return to the consideration of the preparation of the vaccine material used in his anti-rabic inoculations.

M. Pasteur is sixty-three years old. He is a short, thick-set person, about five feet six or seven inches high, with straight black hair, a little sprinkled with gray, and short-trimmed whiskers of the same character. Some few years since he had an attack of paralysis which affected his left side somewhat, so that the movements of that side are not as free as those of the other. In some ways he reminds one of the late General Grant. He is not much of a talker; has in general rather unemotional features, but has a pair of kindly, dark eyes, with heavy eyebrows. From casual observation or without sufficient acquaintance, under peculiar conditions, one would never be led to think that a man so apparently unemotional possessed a tenderness and emotional sympathy far beyond that of ordinary women. When babes or very young children displayed exceeding fright after the first inoculation, when brought each succeeding day, one did not have to watch very closely to see the pearls of sympathy gather in the master's eyes.

It would be unjust to Pasteur not to enter our earnest protest against an impression that has gained more or less extension over the world, viz., that he is exclusive, that he does not publish his methods, and keeps them only for himself and those connected with him in work.

In this regard Pasteur's position has been exactly what Koch's was when connected with the *Reich's Gesundheits Amt.* Neither of them was in the position of teacher; the former had his laboratory and government aid that he might proceed in a certain line of research which, he had become convinced, would be of immense value to the agricultural interests of the country. Communications have been occasionally made to the Academy, as circumstances warranted, regarding the nature of the work and how it has been done, but it was not Pasteur's mission to teach, and it appears as if he had never had sufficient leisure to write any extended works. But, as he has himself said, "It is all in the *Comptes Rendus*," even to rabies. The same is true of Koch. While in the position mentioned, he was appointed to do certain work in connection with given diseases. The German Government, recognizing the demands of the scientific world, promoted Koch to a professorship in the Berlin University, with the probable result that while an inferior man could have equally well served in that position, the world will suffer in the interference thus made in the work of one of its most noted investigators.

Pasteur, while not the author of vaccination, may be truly styled that of the Vaccine School of Research. Another, which will divide the honors with it, is known as the Bacterial School. Both of them are engaged in the work of Preventive Medicine. The school established by Pasteur is certainly limited in its practical application, while the other, which is more of a Teutonic production, is almost limitless in the application to the prevention of disease. The one is direct in its application, the other indirect. The one is simply practical, the other both practical and philosophical, for the proper application of the teachings of bacteriology to the needs of man requires the most exact study of all the various phases of sociology, climatology, etc.

THE LABORATORY.

The laboratory of M. Pasteur is situated upon the grounds of École Normale, the entrance being No. 45 Rue d'Ulm. It is a one-story building about one hundred feet long, with cellars under its entire length. One is surprised at the number of rooms, closets, etc., that it contains. In a small wing on the left is the entrance, to the left of which is the private room of the savant. To a person who has worked in the modern laboratories of Germany, that of Pasteur appears to be very parsimonious in its fittings. In fact, no better evidence is needed to support the assertions previously made, that the work done here is more from the chemical point of view than from the bacteriological, than the sparsity of paraphernalia used in the cultivation and study of bacteria. On the other hand, this very fact only goes to place more strongly in view the wonderful character of the presiding genius.

The one great medium of culture here is bouillon. I could see but little evidence which tended to prove that much attention was given to the study of bacteria from the biological point of view and their relation to, or, better, deportment in, different culture media. On the other hand, such are the delicacy and exactness of technique that have been acquired by the assistants of Pasteur, that they may soon arrive at comparatively pure cultures in fluid media. As just stated, bouillon is used for almost everything, even where other persons would resort to distilled water, for there are no conveniences here for making the latter.

Pasteur and Chamberland have perfected the most wonderfully perfect clay filtering tubes I ever saw. By the use of these under condensed air pressure, they can at once prepare water, bouillon, blood-serum, or even saccharine solutions, and have them free from germs or spores of any kind, without recourse to any further sterilization by means of heat; years of experience have proven the correctness of this assertion. The saving of labor thereby, as well as time, is something that cannot well be calculated. These filters should be introduced into this country for domestic use as well as laboratory work, as I am sure that American ingenuity has never produced anything equal to them.*

On the ground floor we find first a photographing-room, which is used exclusively by the first assistant, Dr. Roux. Of Roux's photographs of bacteria, no person can have any conception who has not seen them. They are simply wonders of exactness, as much superior in definition and outline to those of other micro-photographers as the diamond is to charcoal. Roux is an entirely different kind of man from Pasteur. The latter is reserved, and one looks in vain for any indication of enthusiasm, in place of which he sees dogged determination. Roux, on the contrary, is one bunch of nervous energy, with no lack of perseverance marked in his countenance. He is a tall, slim fellow, who shows the indications of hard work and overtension in every expression and movement. The grasp of his hand at once expresses to you earnestness and sympathy, and if he finds you educated and interested there is nothing that he will not do to make clear everything you desire to know.

The second assistant is a graduate of the École Normale, a M. Wasser zug The name would indicate a German, but he would deny it, and tell you he was an Alsace Frenchman, yet I was pleased to find him utterly free from any dislike of his German neighbors—in fact, he spoke of them with the greatest earnestness, and was especially desirous of hearing everything possible of Robert Koch and his methods. He is a young man, more German than French in energy and character, and it was mostly through his personal attention that I obtained the knowledge I gathered at this laboratory.

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* See THE MEDICAL NEWS, June 6, 1885, p. 627.

As we leave the photographing-room, we pass into one in which we find the monkeys which have been inoculated, and thereby attained immunity from rabies. From their friendliness and good health, one would never realize that each of them had been put through a most trying ordeal, for they have all been inoculated with the most virulent rabid virus. The next room is used for all sorts of operations upon animals. Then comes a hallway from which we go down to the cellar, and also from it into the main laboratory. One of the most striking things one sees is the immense variety of flasks, tubes, balloons, etc., of glass, with tubes extending from them, and necks twisted into almost every imaginable shape. This certainly indicates that such experimentation to find the most favorable forms of vessel that can be used to prevent pollution, when the contents are being inoculated, must be very expensive. So it would be were these things all ordered from a glass factory, but here we find a most practical idea, which we should follow here if we ever have laboratories for the same purpose—*i. e.*, one of the servants of M. Pasteur is a glass-blower, and makes almost, if not all, this kind of material used, certainly all of the smaller and more complicated varieties. The light in this building is as perfect as any one could wish, as the rooms have large windows, and the main room has them on both sides.

In the cellar we find a room for the rabbits that are used in producing the rabid virus only; they are all kept in small wire cages, two in each. Artificial rabies in rabbits is not characterized by any of the ferocious symptoms which we have learned to dread in the dog. They do not appear to labor under any cerebral excitement whatever; they do not bite or fight, but simply suffer from a slowly progressing paralysis. Whether they have tetanus or not I do not know, but certainly they do not fall into any spasms on disturbance. In another room we find animals used in the study of anthrax, and so on for hog cholera, etc. As I left, Dr. Roux was beginning the study of material from the so-called enzoötic abortion in cows, a disease which causes much loss to cattlemen all over the world.

The dogs were formerly kept here, but becoming "disturbers of the peace" they have been removed to an especial building on a neighboring street. They are all kept in very securely made iron cages. Here is a fine opportunity to study canine rabies in all its stages and varieties. Upon the same grounds is situated the building in which is manufactured the anti-anthrax virus, which is being called for all over Europe.

One of the best points to be followed, which can be seen here, is, that each servant has but one kind of work to do. The assistants have nothing whatever to do with the preparation of any kind of virus after the methodic has once been completed to Pasteur's satisfaction. They are all continually employed in completing some process or opening up new work. One man inoculates all the rabbits for rabies and prepares all the virus to be used in the inoculations, while another makes anthrax vaccine, and another the cultures of hog cholera. I have never seen laboratory work so well systematized or go on with so little jarring, and few men in this country have had better opportunities for judging. What supports all this? The government of France! For this purpose M. Pasteur at present receives 50,000 francs per year, but from all that I have seen it is very doubtful if this amount fully covers the expenditures, as he is a person who would never stop to think of his own pocket when more means were necessary to arrive at the completion of some object by which his country's interests would be advanced or human suffering lessened.

THE PREPARATION OF THE VIRUS.

Pasteur's studies upon rabies began in the fall of 1882. The first human being to be inoculated was the boy Joseph Meister, on the 7th of July, 1885. The real grandeur of this work cannot well be expressed in language. The intense responsibility, the almost death-like pressure which must have weighed upon the brain of Louis Pasteur when he made this, his first experiment upon a human being, can only be appreciated by one who has become acquainted with canine rabies in its terrible violence, and hydrophobia in its unspeakable tortures, and further with the entire details of this preventive treatment, how it has been arrived at; such a person, I say, is the only one that can appreciate all Louis Pasteur has been through.

I do not know that it would not be possible to have brought home some of Pasteur's material; it could certainly have been done by the aid of rabbits on board the ship, but I did not ask for it for just one reason, and that is, that I do not consider either myself or any other person would be justified in trying to inoculate his own species before he had himself gone through the entire work by which Pasteur has arrived at his present confidence, and by similar and repeated experiments upon dogs have become as well acquainted with the action of his own material as Pasteur is with his.

It is well known that the saliva of the dog has always been looked upon as the essential medium of infection. It is equally well known to every practical bacteriologist that no more difficult substance could be taken from which to isolate a specific microbe than this saliva, especially, as is probably the case, if this microbe be a coccus. From his observations of clinical phenomena, Pasteur concludes that the specific elements of rabies are to be found in a pure condition in the material of the great nervous centres, brain, and spinal cord, more easily than elsewhere. Experience has proven the correctness of this conclusion, but it still seems doubtful if we shall not also find the same elements in an equally pure condition in the large salivary glands, on the side and under the jaws, as in the brain. The very fact that this saliva is the usual medium of communication of the disease to other animals indicates this.

I have been told that for his cultivation of the microbe, which he claims to be specific, Fol used the fluid he could squeeze out from the fresh brains of sheep. To my mind, the best and most natural way to obtain a medium for the cultivation of the specific microbe in this case, if one thought he had found it, would be to dissect out the parotid duct on each side of the jaw of a large dog, and have its secretion received in appropriate vessels. I would also use cattle for the same purpose. This material can be sterilized in its natural condition, and also made into a solid medium by the use of gelatine.

However, Pasteur has found the brain-substance to answer every practical purpose; from it he prepares an artificial virus, without any direct knowledge of the existence of a specific bacterium, as is the case in the vaccine we obtain from calves. Looking upon the brain as the chief seat of this material, it was but natural that he should also select that organ as the point of inoculation for his future experiments. The supposition proved correct. Every dog thus inoculated from the brain of another rabid dog died in an average period of fourteen days. This fact established, the next step was to find a means of mitigating this material, and a method of using it as a preventive medium.

Not having isolated any specific bacterium, it is evident that the means used in the preparation of the anthrax virus would not be available. Hog cholera had, however, given another indication, which, if followed, might lead to valuable results—*i. e.*, the fluid element of that disease taken directly from a sick hog, one that had been dead but a short time, if carried through rabbits lost its virulence, but increased in the same when carried through pigeons. It was but natural that Pasteur should desire to try this cerebral extract upon monkeys, as next in kin to man. We can well imagine his astonishment at finding that even the most rabid virus caused no serious disturbance, and that if the inoculations were made through a very short series of monkeys, the virus becomes powerless, even upon dogs. Now here he sat upon the apex of a most difficult horn of dilemma. Here was, indeed, a means of preparing a primary rabid vaccine, but where on earth were the monkeys to come from?

This method, self-evidently, had to be given up. Had he only had the microbe isolated and cultivated, and produced this monkey rabies with it, he would have found his preventive virus much sooner than he did.

The monkey not being available, it was but natural that he should turn to that invariable object of vicarious experimental sacrifice, the rabbit. Here he was again struck by a very singular phenomenon. After experimenting for some two years, and using about 2,000 rabbits, he satisfied himself that if one inoculates a primary rabbit in the brain with similar substances from a rabid dog, that that first rabbit becomes rabid in just the same time a dog would if treated in a similar manner; the next thing was to discover what would be the result of carrying such a material from rabbit to rabbit in the same manner as had been done with monkeys. This being done with innumerable series of rabbits, it was found that, after thus inoculating from twenty to twenty-five rabbits, the rabid material had so degenerated in virulence that it killed each rabbit in seven days. This same material acted in the same manner when inoculated upon dogs. Hence Pasteur could almost have claimed to have produced a new disease out of an old one. Now comes the question, How can this material be diminished in virulence?

The brain substance could not be handled very well, so that the next step was to try the spinal cord, the most accessible portion being the medulla oblongata. This was found to act exactly as the cerebral substance had done. The next step was to try the effects of heat and cold upon it in a dry atmosphere; the microbes, if present, must thus be deprived of one of the chief essentials to their existence. The dry air was easily found by placing lumps of desiccated caustic potash in the bottom of glass jars. The corks were made to fit very neatly, and were of the best quality. The medullæ were then removed with the utmost care to avoid pollution with any foreign material, and hung by a thread attached to the corks in the jars.

The following results ensued: When kept in a cool place, the medullæ retained their virulence a long time, which could be increased by filling the glass jars with carbonic acid gas. If, on the contrary, they were kept in a room with a constant temperature of 20° C., it was found that they lost in virulence with each day's action of the dry atmosphere and the surrounding heat, until after, or on, the expiration of fourteen days, a medulla was found which produced no perceptible action upon rabbits or dogs when introduced into the brain.

It was now necessary to discover if each one of these medullæ possessed any constancy of action according to the time they had been thus treated. One can hardly realize the amount of work that had to be done and of the inoculations that were made before this fact could be established. Finally, it again resulted as in other vaccines under methods of treatment: *that any number of medullæ of approximately the same thickness had the same action upon animals, if introduced into the brain, after having had the same amount of exposure—i. e.*, a canine medulla would cause rabies in a rabbit in 14 days; a super-virulent rabbit medulla would cause rabies in a rabbit in 7 days; after the latter had been taken out and subjected to treatment for about two weeks, all action disappeared. A slight action followed the use of one of 12 days, more of one of 10, and so on more and more until one of 1, 3, 4, or 5 became more and more virulent.

It must be borne in mind that these results were all obtained by inoculating a single animal from a given cord of a certain number of days' treatment.

The next thing to do was to try the effect of the serial introduction each day, or at intervals of a day or two, of a series of three separately treated medullæ from rabbits, beginning with a cord that had been treated for 14 days, and ending with one freshly removed from a rabid animal.

What was the result?

I should like to know what Pasteur's feelings were at the moment when he had found that no rabies followed in his animals. No man can portray them!

Then came the revelation before the Academy; the doubts and sneers; the appointing of a committee to watch and prove; the treatment of twenty-five dogs as a test case; the control experiment with twenty-five others that had not been treated to the bites of rabid dogs; the anxious waiting for time to elapse. Then Victory!

The curtain should be dropped here and the story ended, but it is not.

Then followed experiment after experiment until all was as safe as the simplest injection of a harmless material, and then came the tests.

It will be seen from the following statement that the child was daily inoculated with a piece of spinal cord from a rabbit of ever-increasing virulence. The cords were subjected to the action of a dry atmosphere a shorter and shorter period after their removal from the rabbit, until finally a cord comparatively fresh—that is, only one day old—was used.

The boy Joseph Meister. The inoculations began on the 7th of July, as follows:

Date.	Time of inoculation.	Date upon which rabbit was inoculated from which the spinal cord was taken.	No. of days the cord was dried after removal.
July 7	9 A. M.	June 23, 1885	14
“ 7	6 P. M.	“ 25, “	12
“ 8	9 A. M.	“ 27, “	11
“ 8	6 P. M.	“ 28, “	9
“ 9	11 A. M.	July 1, “	8
“ 10	11 “	“ 3, “	6
“ 11	11 “	“ 5, “	7
“ 12	11 “	“ 7, “	5
“ 13	11 “	“ 9, “	4
“ 14	11 “	“ 11, “	3
“ 15	11 “	“ 13, “	2
“ 16	11 “	“ 15, “	1

The method of inoculating rabbits is simply that of ordinary trephining, the instrument being smaller and having the diameter of an ordinary lead pencil.

The fresh medulla is rubbed off with bouillon, as later described, and about two divisions of the piston of an ordinary hypodermatic syringe of fluid injected under the meninges; the end of the needle must be curved. The skin is then sutured as in any other case.

At the same time the child was inoculated, another rabbit was immediately afterward inoculated with exactly the same material used on the child. This is done with the virus used on every person inoculated by M. Pasteur in order to keep the experiments under the most exact control. The result is thus reported by M. Pasteur:

The medullas or cords which were removed from rabbits and inoculated on the child July 11, 12, 14, 15, and 16, respectively—that is, which had been desiccated seven, five, four, three, two, and one day—all gave positive results when re-inoculated upon rabbits in a degree corresponding to the time they had been dried—*i. e.*, the freshest cords caused the appearance of rabies in seven and eight days, while the others gave results later, and the dryest gave none.

The fresh cords having therefore caused the outbreak of rabies in the regular time, which the most virulent cords from rabbits had previously done, and the same not having caused any disturbance whatever to appear in the boy

Joseph Meister, Pasteur concludes "that the boy has not only escaped a future outbreak of canine rabies, but also that the systematic inoculation has so prepared the elements of his body that they were enabled to resist the action of still more virulent rabbit rabies."

This virus from each of the cords is made by taking a small piece about one-fourth of an inch in length and rubbing it up with a glass rod and adding sterilized bouillon, drop by drop, until the fluid and mass are well mixed, and about a tablespoonful of bouillon added. It is not filtered, and some of the substance necessarily settles to the bottom of the glass as a sediment.

The virus is made fresh every day, the glasses containing it being prepared about 10 A. M. While waiting, the glasses are carefully covered so as to prevent anything falling into them from the air. As no cord is used a second time (that is, as if a cord which if used to-day would be one that had dried six days, but which if put back again into the bottle would be a seven-day cord, and so on), it is evident that a number of rabbits must be inoculated daily in order to keep up the supply of very virulent cords, according to the number of patients present, and also according to the period of their treatment, newly arrived patients requiring cords that have been dried fourteen days, and older ones those of corresponding freshness.

I have thus endeavored to place Pasteur's method as fully before the readers of *The News* as possible. It is easily to be seen that the preparation of such material is not a matter that can be done either by private practitioners or even at ordinary hospitals.

SOME PRACTICAL APPLICATIONS OF PASTEUR'S METHODS.

Muzzling dogs is powerless to prevent the extension of rabies among them.

The best way to prevent rabies in man is to prevent it in dogs. This can be done in the following manner:

1st. Each State should have a State Laboratory in connection with its Board of Health, in one department of which such cords should be constantly prepared, and the physicians and veterinarians of the State educated in their use on animals.

Every endeavor must be made to discover the microbe of this disease, and in artificial virus from the same, which can be used in the same manner and as trustworthy as that at present used by Pasteur.

2d. The next step is to discover, by direct experiment, how long the immunity from rabies can be trusted to continue in dogs after they have been treated as above described.

3. Laws must be made conformable to the above, and record books kept in each city. Every dog must not only be inoculated but licensed, certificates of which must be filed with the proper authorities, and presented each year when the new license is applied for.

Experience only can tell the time in which such certificates must expire and be renewed.

4th. All dogs not inoculated must be killed at once.

This is practicable; and only in this way can we do away with canine rabies and eventually remove all danger of hydrophobia from our citizens.—*Medical News.*

New York, January 20, 1886.

SOME REMARKS UPON DENGUE AND THE EPIDEMIC AS IT PREVAILED IN AUSTIN IN AUGUST, SEPTEMBER, AND OCTOBER, 1885. BY W. J. BURT, M.D., AUSTIN, TEXAS.—Dengue is known by many names. Probably the most appropriate synonym for it is "Break Bone Fever." This phrase, at least, carries with it vivid recollections to those who were the recipients of its favor in the recent epidemic.

The term "dengue," however, in a nosological sense, has been accepted by leading authors on the subject, and by the College of Physicians and Surgeons of London.

History.—The first authentic records of dengue date about 1824; or, in other words, the differential diagnosis of the disease was so confused that authors gave no clear history of it previous to that time.

There was a fever in Spain in 1764 which resembled very much the dengue of 1826–28. There was also an epidemic fever in Philadelphia in 1780, described by the celebrated Dr. Rush, and called by him "Bilious Remittent Fever." The history and symptoms were in many points similar to those of the epidemics of dengue of 1828 and 1850. Dr. Dickson of Charleston, South Carolina, who for accuracy and incisive description has hardly had an equal, believes that the true "eruptive dengue fever" never prevailed, epidemically, in the coast States until the latter part of the summer of 1828. He, however, says that there was a fever in Savannah, Georgia, in 1826, but he thinks it was a hybrid fever, and not true dengue. The dengue of 1828 was imported from the West Indies. After this it seemed to have disappeared on the Southern coast until 1848 and 1850, when it prevailed all along the coast, particularly in Charleston, Savannah, and Augusta. Then again in 1873, when it prevailed in New Orleans and many places in Louisiana and Texas. It was in 1873 that the first epidemic of dengue prevailed in Austin, when it spread over the entire city. Dengue again visited Austin last fall and winter, in many localities, but was of a mild type and confined to a few neighborhoods. The history of the disease in this and other countries shows that it has no regular periods of visitation—at times but one or two years intervening between epidemics—then as long as ten, twenty, or more years.

So we can predicate nothing from the history of dengue in reference to the time another epidemic will visit us. The truth is, we know very little of the laws that govern the course of epidemics or of the nature of the infective matter that enters our bodies and produces such ravages in the blood and organs. While we are ignorant of those laws which control epidemics, it may be said of a number of them that their infective particles or germs are chiefly dependent for their fertility and extended spread on the presence of filth, or are incubated and fertilized amid putrefactive decomposition of vegetable or animal matters. For instance, we are able to associate malarial fevers with vegetable decomposition, while typhus fever is more allied, in its etiology, with animal matter and animal excretions. The air, its humidity, its temperature, and its electrical conditions are significant factors in the putrefactive or fermentive process. These infective particles, or germs, or micrococci, may die for want of an opportunity to spring into active work. The precise unity of conditions may not obtain, although the material is in wait.

Or, on the other hand, the turned-up soil, the filthy streets and alleys, and the horrible cesspools of almost every household, may produce favorable atmospheric conditions for the development and spread of any imported germs, into a fearful epidemic. It is easy enough now to say that no case of small-pox would be likely to arise without an antecedent case, any more than a child without a parent. But we cannot say this of diphtheria or typhoid fever. But for small-pox on the one hand, or diphtheria on the other hand, to become epidemic, the fact of the presence of an infective element or germ is not sufficient; they must also have those favorable conditions and associations around them to fertilize and put in motion their infective germs.

The recent epidemic of "dengue," whether it originated in Austin *de novo* or was the result of a general atmospheric or telluric condition, or was imported into the city, it is safe to say was governed in its epidemicy by the same laws and principles that govern other epidemics. While we are yet ignorant of the cause of dengue, we submit that its epidemic work and results have been in a direct ratio to the favorable conditions for its propagation. If, for instance, the first cases of the present epidemic were imported and did not originate in the city, it is fair to conclude from the experience and observation of medical men, and from the logic of the facts themselves, that but few, if any, cases, except the imported ones, would have occurred, *provided* the conditions favorable to its spread had not already existed in the city. Now, what that "favorable condition" is, or what factors enter in, to constitute it, is so far an unsolved problem. We recognize the fact but not the factors. Not many years ago two cases of yellow fever occurred in Austin. *They were imported cases;* no epidemic prevailed. There were a number of cases of "dengue" in the city last fall and winter, but no general epidemic resulted. Isolated cases of "dengue" have frequently occurred in various parts of the coast States from year to year, when no epidemic prevailed. Therefore, we reason, that for "dengue" to become epidemic, the local conditions favorable to the *fertilization* and *mobilization* of its infectious germs must co-exist with the case.

The Cause of the Epidemic.—The cause of the recent epidemic, as well as those of 1873 and 1884, can very properly be classed under one of the following heads:

1. That the first case or cases originated, *de novo* in Austin; the germ or micrococcus or infectious matter springing into active work and extending its conquests by rapid invasions over the entire city.

2. That the first cases resulted from importing the active agent of the disease, either in the persons or by their clothing from infected districts.

There must have been a starting-point, either in the air, soil, clothing, or in persons. It is a matter of grave importance to the city of Austin and to her future growth and prosperity to arrive at a fair and reasonable conclusion on these two points. If the *germs* of "dengue" hybernate in Austin, or develop from local conditions of air, soil, or water, and make incursions at pleasure, the reputation of the city for healthfulness will be questionable. But if these germs are imported, then by quarantine and sanitation the disease may be kept out of the city or controlled by isolation if it enters it.

Did it originate here, or was it imported?

To disprove its origin, *de novo*, in Austin, is to prove by its history and by the facts its importation. If by importation, it must have been through the air carrying the germs, or by persons.

"Dengue" has prevailed in a large number of towns and cities in Texas during the last three months; and at first thought it would appear reasonable to say that it was owing to an epidemic condition of the atmosphere. I submit, however, this proposition, If such an atmospheric condition did exist, was that condition *alone* sufficient to originate cases of dengue? It is believed, so far as I know, by all investigators, that dengue has its own specific germ, which operates in the human system in a specific manner and produces certain characteristic manifestations. If this statement is correct, it would be an unwarrantable assertion to say that epidemic atmospheric influence *alone*, would or could incubate and develop the specific germs of dengue.

I have not been able to learn anything definite in reference to the origin of the epidemic in 1873. But I believe I have been able to find the first two cases that occurred in 1884. These cases were a Mr. Street and Mrs. Hall, who came from Galveston and Houston, where dengue was said to be prevailing. Soon after they came back to Austin they were attacked with dengue. The nurses and neighbors were soon victims to it, and from these infected points the disease developed in several localities in the city. Now to say that the germs of the disease had been latent from 1873, for eleven years, would be too contrary to facts in its history to be entertained.

The history of epidemics of dengue all over the world are histories of importation from place to place. The epidemic of 1824 and 1825, in the West Indies, was traced directly from Aden, in Arabia, and to Aden from Zanzibar, in Africa. Again in 1827, the disease was epidemic in the West Indies, whence it spread to the United States, reaching New Orleans in the spring of 1828, and Savannah and Charleston in the summer and autumn of the same year. In 1870 and 1871 the disease was epidemic in Zanzibar, and was imported by the ship "Somalis" to Aden, in Arabia, and along the Arabian coast to Port Said and Cairo, in Egypt, following the lines of trade and commerce. Mooden, Sheriff of Madras, says: "The steamers 'Jumna' and 'Dalhousie' carried it from Aden to Bombay, and by the lines of railway all over India." Dr. W. H.

Cock says: "An epidemic of dengue prevailed on the island of St. Bartholomew, West Indies. Three men went on the sloop 'Maxwell,' from St. Christopher to St. Bartholomew, and carried it back with them, and it spread from them all over the island."

Take the three main epidemics that have prevailed along the Southern coast, viz.: 1828, 1850, and 1880, and it is believed the first cases were clearly traceable to importation. The epidemic of 1873 first prevailed in New Orleans, and was imported to Galveston, and spread over many parts of the State following the lines of travel and commerce.

I might give in historic detail any number of instances showing that in epidemics of dengue the starting points—the commencement—the first cases—have been imported from infected localities. On the other hand, I find no historic instance in the United States where the dengue was traceable or believed to originate from local insanitary causes. It is believed by some persons that the turning up of the soil in the streets, in July and August, had much to do in producing the present epidemic. Whether it was a factor of any significance in producing a favorable atmospheric condition for the spread of the disease, I know not. No doubt, from a sanitary point of view, it was an ill-advised measure, and should not again be allowed during the hot months. But, in my opinion, it had nothing to do with *originating* the disease.

It was Imported.—The evidence to substantiate this proposition is, in my opinion, satisfactory. Upon careful investigation, I find the first case occurred on the 22d day of July, on the block just west of the market house. Mrs. Emma Hood made a visit to Galveston on the 11th of July, and remained in the city eight days. During her stay a Miss Tornblon, a member of the household where Mrs. Hood was boarding, was taken sick.

Mrs. Hood kindly ministered to her wants until her return to Austin, on the 20th of July. This young lady had the dengue fever, but neither Mrs. Hood nor her friends knew it at the time. On the 22d of July—two days after returning to Austin—Mrs. Hood was taken down with a fever. I was called to see her, and found her suffering severely from what I supposed was a "bilious attack." I did not then recognize the disease as dengue.

But her subsequent symptoms and history for several days marked her case as one of dengue. Twelve other cases have occurred in her house, and she has nursed them, and has had no other symptoms of the disease. Her husband, Prof. Hood, and a young lady boarder, were taken down on the 5th of August—twelve days from the attack of Mrs. Hood. From three to six days later, two other persons, who visited Mrs. Hood during her sickness, were taken with dengue. The disease then spread rapidly along West Hickory Street, so that in a very few days almost every family for three blocks was attacked with it.

The next case was Miss Howard, who was taken sick on the 24th or 25th of July. Miss H. visited Houston on the 9th of July, and remained there seven days, attending a Baptist association. Miss H., formerly from Galveston, went to Austin, and, naturally enough, she associated with her old friends from Galveston. She visited friends at Hempstead on her way to Austin, reaching here about the 23d, when, in two days, she was taken with a fever, which kept her sick and prostrated for ten or twelve days. About one week after her recovery her mother was taken sick with what was then recognized as dengue. Miss H. has not had any other symptoms indicating an attack of dengue since her sickness in July. All her family and friends generally have had the disease. Miss H., so far as we know, was not in an infected district, but associated intimately with those from Galveston, where the disease did exist. It is known that clothing, merchandise, trunks, etc., etc., carry the infectious germs long distances. Is it reasonable to conclude from these facts that Miss H. was infected in this way? I have no way of explanation, if this is not satisfactory. These, being the first cases, became the starting points or infected centres from which the epidemic spread. What local atmospheric condition was present favoring and so rapidly spreading the disease I do not know. The prevailing winds were from the south and southeast; the weather dry and hot; the city at the time was quite healthy and free from epidemic diseases.

Symptoms.—Dengue is a disease of a variety of manifestations. In one case the burden of the disease is in one organ, and then in other cases the symptoms and sequelæ show that other and different organs are more seriously affected. *Fever*, ranging from 100 to 104 degrees, *pain* in the limbs, back, or head, *loss of appetite*, and great *prostration* were the most constant symptoms. It is an eruptive disease, the eruption in some form, and at some stage of the disease, showing itself in probably 90 per cent. of the cases. The initial eruption was usually of a scarlatinal or erythematous rash on the face, neck, or chest. The secondary or terminal rash was more constant, occurring after defervescence, from the fifth to the twenty-fourth day. This rash sometimes resembled measles, urticaria, or herpes, but more commonly the rash was of miliary form. Of all the cases where I made a careful and successive examination, the rash, in some variety, was found in about 80 per cent. of the cases. Stiffness in the back of the neck, rheumatic pains, and swelling of the joints, and a feeling as though the joints were being pulled apart, were frequent and distressing symptoms. Other cases were characterized by deep aching and throbbing of the temples and balls of the eyes. Then, again, the gastric and enteric symptoms were most distressing, as vomiting and irritable stomach, even to the throwing up of black vomit (as in two marked cases).

Again, inflammation of the descending colon, about the sigmoid flexure, with dysentery, were the leading and distressing symptoms, usually after the acute stage had passed. In some, aching and throbbing over the region of the kidneys, with more or less suppression of urine, in others, a mental dulness and depression of spirits, with a feeling of faintness, even when lying down, indicating a weak and laboring heart. Then in others a distressing and unaccountable prostration, out of all proportion to the severity of the attack. The truth is, the functions of all the organs were more or less deranged. The blood was poisoned and changed in its elements by the introduction into the body of the infectious material; be that material germs or micrococci, the results were the same.

The epidemic has not been of a mild form of the disease; on the contrary it has been a severe and serious one. While but few deaths are recorded as resulting directly from dengue (probably not over ten or twelve deaths in Austin), many persons will suffer from the sequelæ for months to come, and will date back their sickness from the dengue of 1885.

In the deaths recorded as having resulted from dengue, at least in two cases the kidneys were the organs more seriously affected. In one case the death occurred through affection of the brain. In one, through the stomach, there being black vomit. In one—a small infant—through the heart; and in one man the nervous system broke down, as from a blood poison.

Of the deaths resulting from dengue, only one post-mortem was held, so far as I know. This case is of such interest that I will briefly relate it.

James Artforth, a German eight months in the United States, aged twenty-three, with history of good health previous to the attack of dengue. On the 22d of September he was taken down with dengue, which lasted for several days. No physician attended him. He began a slow convalescence, but October 2d he had evidently a relapse, with high fever, pain in one side and back, with distressed breathing. This condition continued until the 5th of October, when, seeing he was very sick, I sent him to the hospital. He had a high fever, temperature 104. Physical signs of pneumonia, but neither cough nor expectoration. Heart's action weak, face white and anxious, and great prostration. These symptoms continued with little variation, except a gradual and increasing prostration, until the 10th of October, when he died.

A post-mortem was held sixteen hours after death. Present at the examination, Drs. J. W. and Frank McLaughlin, R. S. Graves, and W. J. Burt. Dr. Frank McLaughlin made the autopsy. There was nothing to attract attention from inspecting the body. After exposing the organs by the usual incisions, the pericardium was opened and the heart removed and examined.

The right auricle and ventricle were very thin and flabby, the left ventricle enlarged and its walls considerably thickened. On opening the cavities, they were found to contain a small amount of bloody water, but no clots; the valves seemed sound.

Lungs.—Slight pleuritic attachments to the left lung, and very strong adhesions to the right lung, particularly to the diaphragm. Both lungs had a reddish aspect, with grayish or ash-colored spots here and there over the surface. On making incisions in the lungs in various directions, the cut surfaces had the appearance of red hepatization, with a reddish, frothy fluid oozing from the cut surfaces. The lungs and parts of them floated in water. No pus was found. A thin, watery, bloody, fluid issued from the cut blood-vessels.

Liver.—Large, particularly the right lobe; it had a yellowish, instead of a brownish, appearance externally. When cut into, it was a fatty liver, and an oily, red-tinged fluid was easily removed with the scalpel. Dr. J. W. McLaughlin examined parts of it under the microscope and found its composition largely to be fat cells, and the whole field covered with black-headed micrococci. White paper was stained with bile when pressed to the cut surfaces; in fact, the whole liver seemed full of bile in all its parts.

Spleen.—Enlarged, but no special changes observed in it.

Kidneys.—The cortical portion was congested, the pyramids swollen and inflamed in the lower and middle portion of the kidneys, but tough and white in the upper third. The kidneys through both structures were hard in cutting in a longitudinal direction.

Blood.—No clots were found in the body; the blood was very thin and watery, and seemed to be disorganized. When thrown on a white cloth, it merely made a stain like bloody water.

How much of these pathological changes observed were the result of dengue can only be conjectural. Future autopsies may confirm them. It is to be regretted that so little attention has been given this matter in other epidemics throughout the Southern coast States. I have not been able to find a history of a post-mortem held on a person who had died of dengue, through all these epidemics. Whether the microscope will give us a more correct knowledge of the disease remains to be seen. If my distinguished friend, Dr. J. W. McLaughlin, is able to isolate the micrococcus he has discovered in dengue patients and to propagate it through two or more generations, and then produce dengue by introducing it into the human body, he will stand with Koch and Pasteur as a discoverer, and his name, like that of Jenner, will go sounding down through the generations as a benefactor of his race. Let us hope that the Doctor will find the living germ that produces dengue, and he or some other one find the germicide which will cut off its invasions and inhibit its epidemic work.

Treatment.—Dengue being a self-limited disease, disposed to a favorable termination, the large majority of cases require very little medical treatment. However, as the disease is not so simple in its ultimate results, the vigilance of the medical attendant should not be relaxed, but he should carefully watch for complications that so often arise, and treat them promptly. In a large per cent. of cases the patient needs to be placed in bed, and a warm foot bath and warm drinks administered, with cold applications to the forehead and eyes. A quieting mixture, as a Dover's powder, or a bromide of potash, morphia and aconite mixture should be given. A mild purgative is often required. If the pains are severe and the temperature runs high, then the salicylate of soda in ten to twenty grains every few hours usually gives satisfactory relief. There is no specific for the disease yet discovered. It must be treated expectantly and conservatively, meeting complications as they arise, supporting the weak organs and promoting functional action of the various secreting organs, hoping in this way to more rapidly eliminate the poison from the blood and bring about a restoration to health.—*Daniel's Texas Medical Journal.*

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

NEURASTHENIA.—In the course of an article in the *Lancet* bearing the title "Some Observations Concerning What Is Called Neurasthenia." Sir Andrew Clark says: When the symptoms set forth as characteristic of neurasthenia are carefully examined, it will be seen that they constitute an assemblage of incoherent indications of disorder borrowed more or less freely from inchoate forms of insanity, and from almost every disease of the nervous system; that they are not characteristic of any definite disorder; that divisions of them belong to disorders the most diverse; that no common law of treatment can be safely applied to them; and that, published with some parade as coherent and conclusive evidences of a state of "nervous debility," they exhibit defects of observing, reflecting, and critical powers unpardonable in those who court or claim the attention of the profession. But hidden within the signs described as characteristic of neurasthenia, and concealed under such terms as astraphobia, topophobia, agorophobia, claustrophobia, anthrophobia, monophobia, photophobia, mysophobia, pantophobia, and the like, there are symptoms, various, but related, which anyone with sufficient experience and competent faculties of observation and critical analysis can easily discover, arrange into a well-defined group, and present to clinical medicine under the justifiable name of mere and sheer nervousness. All persons exhibiting this group of symptoms have a tolerably uniform natural history, possess what is understood as the nervous temperament, and are said by members of our profession, as well as by the general public, to be sufferers from nervous debility. But it is more than doubtful if weakness, used in its ordinary meaning, is the sole or chief characteristic of sufferers from nervousness. For the most part they present the appearances of health. Always excitable and sometimes depressed, they are often animated and joyous; procrastinating, fragmentary, and inconstant, there are, nevertheless, to be found among them the greatest workers of the times; talking occasionally for hours without fatigue, they are sometimes silent and grave; for the most part fastidious, refined, and cultivated, they fall occasionally under the dominion of sensuousness and the lower emotions; habitually tormented by a physical self-consciousness, they can yet efface themselves in their devotion to others; disposed to the flesh and the world, they often attain the greatest heights of the spiritual life; always ailing, they are seldom ill; often condemned to premature death, they live, as a rule, long beyond the average duration of life; and regarded by the hard, stolid, and superficial with feelings akin to contempt, it is, nevertheless, from them, far more than from any other class of persons, healthy or disordered, that we get all that is truest and highest, best and noblest, in science or letters, in art or song.

Such are some of the more prominent external characteristics of sufferers from nervousness. What the intimate nature of it may be, the present conditions and limitations of knowledge do not permit us to know, but I think myself on safe ground when I say that it cannot be a mere weakness of the nervous system.

If we engage in critical study of the symptoms of nervousness with a view of coming to a nearer and clearer understanding than we now have of its nature, we must inquire into its internal characteristics and endeavor to discover among them what may be called the proximate constituents of that state of which nervousness is the main external expression. I say here, of set purpose, "the main external expression;" for doubtless the state expressing itself in nervousness has—through nutrition, secretion, and many dynamic conditions—manifold expressions of its presence which are neither comprehended nor considered among its ordinary symptoms. It is not within the scope or purpose of these remarks to supply an exhaustive and accurate statement of the proximate conditions of nervousness; but in order to make plain the meaning of at least one of the things needed for the further elucidation of this subject, I shall set down, just as they occur to me, the chief dynamic nerve states which, combined in various ways and degrees at different times, give rise to the symptoms of nervousness:—

1. A too rapid production and expenditure, together with an irregular distribution, of nerve force.

2. An abnormal sensitiveness and freedom of communication throughout the whole nervous system, but chiefly in the basal ganglia, and in the parts below them.

3. An unstable equilibrium of the whole nervous system, especially excessive in the vaso-motor centres, whereby are brought about, in nervousness, the flushings, blushings, and pallor of tissues and organs.

4. Disturbances of the general regulatory or special inhibitory powers, arising, independently of localized nerve centres, through mere augmentation, defect, or interference with each other of automatic or reflex nerve-discharges.

5. A recurring state of more or less intense physical self-consciousness, through which there come within the cognizance of the organism certain of its own states, disorders, and actions, which lie far beyond the ordinary area of the consciousness of average persons.

I have alleged that this term "neurasthenia" is therapeutically misleading, and I shall now endeavor to make good the allegation. If it be true—and, for my part, doubt is impossible—that under the term "neurasthenia" no clear, definite, and distinctive account is given of true nervous exhaustion; that the descriptions of neurasthenia, as written in books, are composed of symptoms of the most diverse diseases and disorders artificially framed into an incoherent whole; and that in this heterogeneous mob of symptoms we can discover one group, not mainly asthenic, but the reverse, sufficiently distinctive in its characters, course, and issues to warrant the bestowal of a separate name—then there is no further need of argument to show that for such an assemblage of symptoms no single method of treatment can be rationally designed or even safely applied. In the treatment of dynamic nerve disorders two great plans of treatment are pursued. The one consists of change of surroundings, separation from friends, abundant feeding, rest in bed, and massage; the other consists essentially in discontinuance of business, generous living, distraction, and travel. Each plan has its own group of suitable cases, and each can boast of its own successes, often brilliant, although often temporary. But there is one group of cases, the cases of mere and sheer nervousness, to which, in general, neither of these plans can be successfully nor safely applied. One or the other failing, and too long followed, brings about on occasions, frequent enough to demand serious consideration, mental and moral disasters which are now and then irreparable.

In cases of mere nervousness unaccompanied by any conclusive objective evidence of weakness, the plan of treatment which empirical experience has shown to be the safest and the most successful differs widely from the other plans, is difficult to follow, and provokes the antagonism of the patient's friends, who are usually constrained by some fatal necessity to destroy those whom they love. It consists in placing the patient in the physiological conditions most favorable to the general health; in a simple but liberal mixed dietary arranged in three daily meals; in an extremely moderate use of, or abstinence from, tea, coffee, tobacco, and alcohol; in cold or tepid spongings and warm clothing; in promoting without stimulating the excretory organs; in full regular, daily, purposive, necessary work; in self-effacement and the repression of every form of physical self-consciousness; in cultivating the exercise and control of the will; and in encouraging or even urging the patient to do with his might and without fear whatsoever has fallen to his hand to do. By the following of some such plan as this, difficult and painful at first, but easy and pleasant at last, the sufferings of nervousness will be in most cases removed, and the sufferers, by their discipline, will be lifted to a higher level of physical and moral life.

Returning to my immediate purpose, I sum up these observations in saying that the term "neurasthenia" is unscientific, inaccurate, and misleading; that the descriptions given of it do not include a clear, concise, or distinctive account of genuine nerve exhaustion, and do include a mob of incoherent symptoms borrowed from the most diverse disorders; that for a malady thus constituted and containing antagonistic conditions, no rational principles of treatment are possible; that in the heterogeneous assemblage of disorded states ascribed to neurasthenia, there may be a group of coherent and distinctive symptoms arising out of mere and sheer nervousness; that the general treatment proposed for neurasthenia and applied to this group of cases would prove probably unsuccessful and possibly disastrous; and that for the purely nervous cases as I have described them the most successful treatment, and also the highest, consists of diet and discipline, work and will. For even a delicate organism, the fullest regulated discharge of all its functions is the cardinal condition of its highest life.

THE PALLIATIVE AND RADICAL TREATMENT OF THE OBSTRUCTING PROSTATE.—In a recent article in the *Lancet* Mr. Reginald Harrison, of Liverpool, says: It is hardly requisite to point out how frequently we find large prostates in persons who have been, as far as it is known, but little inconvenienced by them, the explanation of this immunity from symptoms being found in the fact that the growth in no way interfered with the outlet from the bladder. In this conservative process there is much that may be imitated by art; and as the regular expulsion of urine from within outwards is capable of preventing obstruction by the formation of grooves or channels in the hypertrophied mass, so in like manner may the same condition be brought about by the introduction of a suitable instrument along the passage which is threatened with extinction. It is important to notice how slight is the prostatic barrier in some of these instances, but yet how complete is the obstruction which is thus occasioned, both relatively to the act of spontaneous micturition and to the introduction of an instrument to relieve it. When we consider how extremely limited physically is the nature of the obstruction in many of these cases, it is not difficult to understand how readily this state may be remedied by the timely adoption of mechanical means. How easily the mere outlet of the bladder may be improved in some instances of obstruction by a large prostate is shown by the undoubted success which frequently followed the practice of Mercier in making a linear incision through the prostatic bar, and more recently by the means advocated by Gouley, where no more than a small portion of the obstruction is punched out by an ingenious instrument contrived for this purpose. Of both of these operations I have had sufficient experience to enable me to conclude that, as a rule, the amount of tissue it is necessary to divide or destroy for the purpose of permanently improving the outlet from the bladder is comparatively small. It is, however, not to be implied that, because the orifice of the bladder is mechanically improved, so far as relates to the mere act of letting urine out, or an instrument in, the power of spontaneously discharging urine naturally follows upon this; on the contrary, it frequently happens that under the strain of months or years of unaided micturition the muscular power of the bladder becomes sensibly and permanently weakened, or the power of expulsion completely disappears, never to be regained. Hence it becomes, in all cases of impeded micturition, of the first consequence that every means should be taken to avert a catastrophe which by no means ceases with the mere inability to expel urine from the bladder.

In illustration of what preventive treatment can do, Mr. Harrison relates a typical case in a gentleman of sixty years of age, who consulted him for an irritable bladder. Not only was there unnatural frequency in passing urine, but the act had lost its normal characteristics, for, instead of the urine being expelled in a stream, it seemed rather to ooze from the penis. Investigation determined—first, that there was a considerable obstruction within the prostatic uretha; and, secondly, that the bladder was commencing to lose its power. Under these circumstances he advised the patient to introduce a soft instrument into his bladder daily until further instructed. In the course of three months he was practically well, and, beyond passing his instrument occasionally for his own satisfaction, he has remained so. Can it be doubted, he asks, that this marked change was due to the use of the instrument? What would the patient's condition have been within six months had nothing of this kind been done? He then goes on to say: In an experience of this kind, which has not been inconsiderable, I think I may say that where there exists any mechanical obstruction to the escape of urine along the urethra from the bladder, I have never known any harm come when an instrument adapted to the particular case has been selected and is properly used. Where these conditions are not complied with, it is not remarkable that the results have been disappointing. On the other hand, the evidence of patients themselves as to the immediate and permanent advantages attending the employment of mechanical means in the earliest stages of prostatic obstruction is sufficiently ample to render further allusion to this aspect of the question unnecessary.

I will now proceed to notice the treatment employed in those cases of prostatic obstruction where the condition of the patient appeared hopeless of relief by such palliative measures as the use of the catheter. I have now operated under these circumstances in four different ways, which I will briefly illustrate.

First, by a removal of more or less of the obstructing prostate by an incision from the perineum. In two instances where this was done both patients are now alive and well, after intervals of seven and four years, having previously suffered from the most serious forms of prostatic obstruction.

Secondly, by perineal incision and section of the bar, and by the subsequent use of a proper drainage-tube.

Thirdly, by the permanent retention of a perineal tube with a suitable tap. This has twice been resorted to. In both of these instances it was only intended to use this apparatus for temporary purposes after median prostatotomy, as in the second class of cases, but at the patient's desire the tube was allowed to remain in. I should just say one word on the apparatus used. In consists of my ordinary bladder drainage tube, as made for me by Mr. Wood, 81 Church Street, Liverpool, to which is attached a piece of rubber tubing, about 2 feet long, terminating in a small stopcock; the perineal tube is retained by a modified T-bandage, whilst the end of the tubing is looped into an ordinary belt which the patient wears. All he has to do is to let down the end of the tubing, and turn the stopcock when he requires to pass urine. Within three weeks both of the patients I have just mentioned were up and going about the wards as usual. I have frequently had patients up and about within ten days from the operation. I have sometimes been asked whether I do not find that the urine leaks through the wound by the side of the tube. If the wound is properly made this is not the case. It sometimes happens that after the perineal tube has been worn for three or four weeks the urine is suddenly propelled along the side of the tube, and I have known some even escape along the anterior portion of the urethra. This is a sure indication that the tube may be entirely dispensed with, and that the uretha is prepared to resume its normal function.

Fourthly, by prostatic puncture, without incision, and the retention of the cannula made for me by Messrs. Krohne and Sesemann. Atrophy of the large prostate has followed this proceeding.

A study of the cases I have arranged under these four headings will, I think, justify me using the term "radical cure" in connection with the treatment of advanced forms of prostatic obstruction. I will now, in conclusion, turn to the other side of the picture, and refer to those cases where I have failed to obtain the results I could have desired. I have now operated over twenty times—a number sufficiently large for the purpose of drawing some general conclusions which seem to me of value in connexion with this subject. Not a single instance has yet happened to me where I either regretted having done the operation, or directly or indirectly connected the death of the patient with the proceeding. In two instances only, so far as I know, did the patients die; one three weeks after the operation, and another four. Both of these patients lived longer, and far more comfortably, than they would otherwise have done, and had nothing to regret in what was undertaken for them. Both patients showed after death a condition of the urinary organs beyond repair; both showed the damage that long-continued back-pressure of obstructed micturition is capable of effecting, and to this extent was a cause for regret that more perfect mechanical measures for relieving this back-pressure had not been earlier applied. Both of these cases, however, served to teach how the mechanism of median prostatotomy, as already described by me, might be improved, for both showed that in some instances the form of the prostatic bar was such as to render it well-nigh impossible to divide it adequately, as in lateral lithotomy, from before backwards; it is necessary sometimes to use a long curved probe-pointed bistoury, passed within the bladder from the perineal wound, and to divide from within outwards. Of the importance of this I have since been able to satisfy myself in practice. Only in these two instances, and a third, where I removed almost the whole of a carcinomatous prostate, the patient living in comfort for ten months, and being able to return to his work, did death follow, so far as I can ascertain, either shortly afterwards or more remotely, any of the proceedings I have just referred to under the headings of prostatectomy, prostatotomy, and perineal drainage. The improvements which have recently been made in the drainage of bladder wounds, in the arrest of hemorrhage, and in the use of antiseptics, bid fair not only to extend our means of relief in directions which previously seemed hopeless, but to lessen the high mortality which appears to have attended some operations for stone and allied affections of the urinary apparatus.

ORIGINAL ABSTRACTS.

INTRA-CRANIAL CEPHALHÆMATOMA.—Abstract of a paper read before the Mississippi Valley Medical Society, by E. S. MCKEE, M.D., Cincinnati, O.

Prepared by the author expressly for GAILLARD'S MEDICAL JOURNAL.

The intra-cranial variety of cephalhæmatoma, or blood tumor of the head in new-born infants, for any mention of which a large list of text-books might be searched in vain, may be divided into (*a*) those situated between the skull and dura mater, and (*b*) those occurring in the arachnoid cavity.

As causes of intra-cranial cephalhæmatoma may be enumerated most of the causes of the external variety, such as the reception of some injury to the child during parturition, for example ; one can, however, find many instances where the external variety occurred, notwithstanding the fact that the labor was light. They are mentioned in breech cases, and in Vienna they have been noticed in infants whose births were due to Cæsarean section. It is quite possible that through the crushing of the parts together during delivery there occurs tearing of the periosteum or dura mater and bone blood-vessels. This pressure being released, the parts are again suddenly freed, and, emptied by the diapadesis caused by the crushing which they had undergone, hyperæmia and engorgement are the result of the removal of the pressure. Thus, from nature's *horror vacui* we have a sudden rushing of blood. The sources of the hemorrhage are, probably, the tender blood-vessels. These enter the bone from the dura mater and are, immediately after the release of the pressure, overfilled and ruptured. Possibly it might be due to a varicose condition of these vessels. The hemorrhagic diathesis might be a cause. The tendency is in some instances probably inherited. In cases of fracture of the bone, cephalhæmatoma on the dura mater may be due only to the hemorrhage from vessels wounded on broken edges of bone. Feist and others decline to recognize these cases as cephalhæmatoma. The fact should be borne in mind that cephalhæmatoma, both external and internal, occurs without the co-existence of fissure of the cranial bones. Admitting that extravasation of blood results from its escape from the blood-vessels which are wounded by a fissure of the bone, the centre of each tumor must correspond with the fissure. This has not been found to be the fact in the cases reported. The fissure and the effusion may occur at the same time and from the same cause, but the latter must not be considered the result of the former. The usual causation of the extra-cranial variety, pressure, is quite adequate, if unusually forcible, to cause the intra-cranial also.

The diagnosis of intra-cranial cephalhæmatoma depends entirely upon the symptoms of brain-pressure which it is liable to occasion. These are, twitchings, convulsions, stupor, or paralysis. The external variety is, of course, much more easily diagnosed.

Prognosis for the intra-cranial variety is bad; death occurs most frequently from brain-pressure, or from necrosis or caries of bone, leading to perforation, thrombosis of the cerebral sinuses, extension of the inflammation into the meninges and brain itself, and pyæmia ; idiocy is one of the results.

Dr. West is the only one who has observed repair of the internal cephalhæmatoma. He found it analagous to the repair of the external cephalhæmatoma, the effusion becoming encircled by an osseous ring.

The essayist then reported a case which occurred to him while on obstetric service at St. Bartholomew's Hospital, London. It was a healthy female child—the thirteenth, position a breech, labor easy. The child did well for three days, when it was taken with convulsions, and died in a short time. The autopsy showed external and internal cephalhæmatoma, the internal within the arachnoid cavity. No fissure of bone, or marks, or history of external violence could be found. The mother said three of her other children had died of convulsions, and she gave this one up to die as soon as they came on. From this, and the fact that Krause had observed three children born successively to the same woman suffer from cephalhæmatoma, the writer was of the opinion that his case, as well as the others, was due to heredity.

He had collected from medical literature twenty cases in all, which he reported in brief.

Treatment in internal cephalhæmatoma has not yet been attempted, the diagnosis being always made *post mortem.* As the internal variety, however, is almost always associated with the external, the latter directly over the former, given a case of external cephalhæmatoma, with symptoms of brain-pressure, in the writer's opinion it is advisable to trephine the skull and evacuate the tumor.

THE RATIONAL METHOD OF TREATMENT OF HYDROPHOBIA.—In an article in the *Lancet*, Surgeon-Major G. C. Roy, of India, having referred to the abortive treatment of hydrophobia discovered by M. Pasteur, and stated that if confirmed by subsequent experiments and trials it would confer a boon on mankind not inferior to that of Jenner, writes as follows: "But it will not be the lot of the generality of patients to have a laboratory close at hand, and if by chance the bite is overlooked, and the disease actually gains its ascendancy in the blood, have we got any medicine in our Pharmacopœia on which the slightest reliance can be placed for treatment? The sad confession in the weakness of our resources will then be manifest, and, while brooding over our failures, it struck me that Nature could not be so improvident and callous as to leave us so thoroughly helpless and unprotected. Starting from the acknowledged action of hydrophobic poison on the blood, can we not find another poison that has just an opposite virtue, and likely to neutralize its effect? We have in the animal kingdom two deadly poisons, which differ entirely from each other in their physiological action. Thus, whilst the poison of snake-bite acts with the rapidity of an electric current, that of hydrophobia takes a long incubative period to mature itself. The effect of both is on the cerebro-spinal system, chiefly the medulla. Rabies produces death by causing spasm of the respiratory centres; snake-poison, paralysis. One causes hyperæsthesia of the cutaneous nerves; the other, numbness. One gives rise to excitement of the brain and furious delirium; the other, coma. In every detail, therefore, of its action, one is in physiological opposition to the other, and, applying the law of contraries, it stands to reason that the effect of one should neutralize the other in the system. Just in the same way as opium and belladonna, being two deadly poisons, their antagonistic virtue was discovered simply on the observance of their different effect on the pupils. The suggestion may startle the readers as a bold and dangerous practice, but a deadly disease requires a deadly remedy, and we are apt to forget that in the whole range of therapeutics the most potent remedies are the most deadly poisons. But through poisons in ordinary doses, the attenuation of the quantity by dilution may yet bring them within the range of remedial measures. It is known that a snake-bite which is not effective to be fatal simply produces a deleterious effect, the symptoms varying in proportion to the quantity of the poison injected into the system. A smaller dose, therefore, would produce the physiological effect, instead of bringing on death and destruction. We have, consequently, to hit upon the happy medium, and this can be worked out satisfactorily by observing that a good bite of cobra instils ten to fifteen drops of the poison into the tissues. One drop diluted with glycerine, and injected subcutaneously, and repeated every two hours, according to the symptoms observed, affords a rational presumption for success in the treatment of hydrophobia; thus—snake-poison, twenty-four minims; glycerine, half an ounce; ten drops to be injected every two hours under the skin.

All the improvements in medical science in former days were deduced from empiricism. In fact, few remedies were discovered on rational philosophy. I have, on rational principle, suggested the treatment to which I would earnestly solicit the profession to give a trial, for it falls to the lot of few to treat one case of hydrophobia from one year's end to the other, and unless the co-operation of brother practitioners be accorded, our life is too short to enable us to establish one single truth in a generation. Cobra poison is plentiful in the rains in India, and, diluted with glycerine, it will keep its virtue intact for a year. I shall be glad to supply the mixture in August next to those who kindly feel disposed to put the method to the test.

A CASE OF UNUSUAL MALPOSITION OF THE VISCERA IN A NEW-BORN CHILD.—John Phillips, M.R.C.P., describes, in the *Archives of Pediatrics*, the peculiar arrangement of the viscera which he found at the autopsy of a child which had died twenty minutes after birth, the infant having been kept by artificial respiration in a semi-moribund condition for this length of time. The body was that of a full-timed, well-formed female child, weighing seven pounds. The abdomen was very flattened, but no malformation could be discovered externally. On removing the chest-wall, and opening up the abdominal cavity, it was found that the whole of the space usually occupied by the left lung, the heart, and large vessels, was filled with intestines, the upper third consisting of large bowel, stained of a greenish brown hue, the lower two-thirds being made up superficially of coils of small intestines of a pinkish white color. The right side contained at the apex the thymus gland, below that the heart and large vessels covered by the pericardium. To the right of these latter, and slightly below, was the right lung, trilobed, but in a condition of almost complete atelectasis. On raising the intestines on the left side, the stomach came into view, resting on the convex surface of the diaphragm, with one or two coils of large intestine of olive-green color covering its pyloric end. At its cardiac end was the spleen, and behind and below, the left lobe of the liver could be seen passing through a large congenital deficiency in the posterior part of the left side of the diaphragm. The opening was oval, being three and a half inches in breadth, and an inch in its antero-posterior diameter. The edge was quite smooth, the serous surfaces being continuous. Towards the median line of the thorax, and attached by some fibrous tissue to the vertebral column on the left side, was a small bilobed brownish yellow mass, which proved on examination to be undistended left lung. On removing the pericardium, the ductus arteriosus was found patent, and the right pulmonary artery could be traced into the right lung, but a fibrous band represented that going to the left lung. The brain was normal. The abdominal cavity was occupied by the liver, the remainder of the large and small intestines, and the bladder.

The report of the case concludes as follows: Cases of *transposition* of viscera are rare; but I have been unable to find a case on record of *malposition* similar to the one described above. The question as to the possibility of the child being born alive with such a condition existing is manifestly an interesting medico-legal problem.

HOW TO LEARN AND HOW TO REMEMBER ANATOMY.—In a lecture published in the *New Orleans Medical and Surgical Journal*, Dr. Edmond Souchon, Professor of Anatomy and of Clinical Surgery, Tulane University of Louisiana, gives the following table as a guide to describe an organ:

1. *Definition*—Synonymy, Etymology, History.
2. *Division of the Organ* into separate portions.

3. *Number*—Single or Double—Supernumerary organs. Absence of the organ.
4. *Dimensions*—1st. *Relative Size*, or size compared to other organs or to familiar objects. 2d. *Absolute Size:* Diameters; transverse, vertical, antero-posterior. Calibre.
5. *Situation*—1st. *General* Situation or region it occupies. 2d. *Relative* Situation or compared to the surrounding organs.
6. *Direction*—1st. Compared with *axis of the body.* 2d. Compared with *its own axis.*
7. *Means of Fixity*—Vascular Connections.—Adhesions.—Ligaments.—Supported by other organs.
8. *Mobility* of the whole organ—of a part of it—*Intrinsic* mobility. *Extrinsic* mobility or Communicated by other organs—Extent of mobility—Exceptional mobility.
9. *Shape*—1st. Compared to a geometrical figure. 2d. Compared to the shape of a familiarly known object.
10. *Surface*—Synonomy—Direction: forwards or backwards.—Above or below.—Intermediate direction.—Shape: Plane, Concave, or Convex in the vertical or transverse direction.—Peculiarities (folds, processes, ridges or crests, tubercles, protuberances). Depressions orifices (size, shape, boundaries, structure, contents), blind foramina —grooves and canals (depth, extent, contents, vessels or nerves or organs). When enumerating peculiarities, begin on the median line and then on the sides; proceed from before backwards or from within outwards; or from above downwards. Relations: With skin (*i. e.*, to what part of the surface it corresponds) or with bones, joints, muscles, viscera, vessels, and nerves.
11. *Borders:*—Synonymy, Dimensions, Direction: 1st. *Relative Direction*, vertical, horizontal, oblique, forwards or backwards—or above or below—or inwards or outwards. 2d. *Absolute* direction: straight, sinuous, concave, convex. Shape: Blunt or Sharp, or Bevelled at the expense of one surface or the other.

    Peculiarities, } as for surfaces.
    Relations, }

    All Thick Borders ought to be subdivided into *two edges* or lips and an *interstice.* Give for each: peculiarities, insertions, and relations.
12. *Angles or Extremities:* same as borders. Base and apex: same also.
13. *Structure:* Color, Consistency: Density, Friability, Elasticity, Retractility. Envelopes or Coats: Thickness, Resistance, Elasticity. External Surface (relations, adhesions, processes from internal surface). Reflection into the interior of the organ. Stroma: Is delicate or apparent; is composed of connective tissue, or elastic, smooth muscular fibres. Proper or Characteristic Elements: Cells, Tubes, Fibres, Prisms. Capillary Arteries: Veins, Lymphatics, Nerves. Excretory Duct of Glands (as a separate organ). Lining Membrane of a Hollow Organ: Thickness, Consistency, Elasticity Adhesive Surface, (degree of adhesion); Free Surface; color, peculiarities, epithelium, glands.
14. *Chemical Composition:* Organic, Inorganic Elements.
15. *Development or Anatomy of the Ages.*
16. *Peculiarities or Varieties*, or anomalies due to Sex, Habits, Trades, Constitutions, Individualities, Nationalities, Races.

PURE TEREBENE IN THE TREATMENT OF WINTER COUGH.—Dr. WILLIAM MURRELL, (*British Medical Journal.*) Pure terebene is a substance prepared by the action of sulphuric acid on oil of turpentine. It is an agreeable remedy, being a clear, colorless liquid, with an odor like that of fresh-sawn pine wood. It will not mix with water, but, as the dose is small, it can readily be given on sugar. One of the great advantages of pure terebene is, that it is not a bulky medicine. An ounce bottle, carried in the pocket, will last for days, and is always ready for use. It is best to begin with five or six drops on sugar every four hours, and gradually to increase the dose to twenty minims. This is, for most people, the maximum quantity, but the drug has little or no toxic action, and one patient was so enraptured with his remedy that he insisted on taking a teaspoonful every four hours for a week. The only disadvantage I have ever noticed from its employment is that it gives a peculiar and characteristic odor to the urine, a circumstance which patients never fail to mention. When used as a spray, from one to two ounces should be diffused and inhaled every week. In some instances I have tried giving it mixed with equal quantity of olive oil flavored with peppermint. In twenty-five cases I gave the terebene in the form of an emulsion, made, if I remember rightly, by mixing it with a little tragacanth powder, adding water and shaking well. Each ounce of the emulsion contained a drachm of the terebene, and it was usually given in half-ounce doses four times a day. The results were excellent, but no better than with the simple terebene itself, and I saw no reason for continuing the use of a more expensive preparation. In every case of winter cough in which the terebene-spray was used systematically, there was a marked improvement. In many instances, it was noticed almost immediately; but in other cases, especially the very chronic ones, the patient had to continue using his remedy for some weeks. Even when there was marked emphysema, with little movement of the chest walls, some benefit was experienced. I treated eighteen cases of phthisis by the same method, and the results were certainly most encouraging. It did most good when there was old consolidation, when no active mischief was in progress, and especially when there was no elevation of temperature. I have also used it as a dry antiseptic inhalation on the cotton-wool of a respirator in phthisis, and have been much pleased with the results. In one case, that of a young lady, the respirator was worn almost continually night and day for nine months; and the right lung, which was breaking down, cleared up, the temperature becoming normal, and the cough and other symptoms subsiding. I have no doubt that pure terebene would be useful in checking hemorrhage from the lungs, but on that point I have no experience.

Many sufferers from winter cough also complain of acidity and flatulence. I soon found that the internal administration of pure terebene was an excellent remedy for this combination of symptoms. It checks the formation of flatus so quickly, and is so efficacious in expelling any that may remain in the stomach or intestines, that I constantly employ it in cases of dyspepsia when flatulence is a prominent symptom. Patients like it, and often continue the taking of it for months or years. It acts as an antiseptic, probably in much the same way as glycerine, oil of cajeput, and oil of eucalyptus. I am surprised that it has not come more largely into use in the treatment of flatulence.

Pure terebene is of such value in winter cough that I rarely experience the necessity of resorting to other remedies. This year, however, I have tried a combination consisting of equal parts of pure terebene, oil of cubebs, and oil of sandal wood, mixed with liquid vaseline. This I use in an atomising apparatus invented by Mr. W. F. Semple, of Ohio—an apparatus which is somewhat complex and difficult of description, but may be said to consist essentially of a jar in which the medicated fluid is finely atomised by a blast of air propelled by a rubber ball. A nose-tube is attached, and the fine spray inhaled either through the mouth or nostrils. It is certainly one of the best forms of spray-apparatus ever invented, and when used with a cocaine-solution will be found wonderfully efficacious in the treatment of hay-fever and coryza. The formula I have given yields excellent results, not only in winter cough, but also in post-nasal catarrh. I have made some observations on this point, in conjunction with a well-known tenor, and have been astonished to note what a marvellous difference there is in the tone of his singing voice after using it for only a few minutes. It is a powerful expectorant; and if inhaled the first thing in the morning, when the mucous membranes are covered with thick, viscid secretion, will give very great relief. Pure terebene is a valuable remedy, and will in time come largely into use.

WEIGHTED SHOES IN LOCOMOTOR ATAXIA.—Dr. Allan McLane Hamilton (*Boston Medical and Surgical Journal*) says: I have been in the habit, during the past four or five years, of suggesting a simple mechanical device which has done so much good that I think it worthy of publication. I allude to weighting the anterior part of the feet. Many ataxics whose locomotion was exceedingly difficult and distressing have worn their weighted shoes constantly since I ordered them, and have led far happier and more comfortable lives. Those at all familiar with the peculiar heel gait of the ataxic know that there is more or less weakness of the peroneus longus, and a failure to act against its opponent, the tibialis anticus, which is strongly contracted. Buzzard and Jackson first called attention to this explanation of the disorderly walk, which largely depends upon what the former calls the "over-movement of the associated muscles." The use of properly adjusted toe-weights serves two purposes—*first*, to overcome the tendency to violent hyper-flexion; *secondly*, to create an exaggeration of subjective consciousness of movement and location. The loss of plantar tactile sensibility is compensated by the perception of weight. In some cases with the adjusted weight it is possible for the patient to walk in the dark, which under other circumstances he could not do. The weight, which should not be so great as to produce fatigue, may consist of a leaded insole, or of a plate fastened between the soles. A few experimental trials will enable the physician to determine just how much lead is needed and where it should be placed. For those cases which last some time, the degree of comfort is sometimes very great, and the patient's gait is less apt to attract the attention it would otherwise, thus saving him much mortification and giving him greater confidence.

PASSAGE OF OPEN PEN KNIFE ALONG THE INTESTINAL CANAL.—Dr. C. B. Hutchings (in *Pacific Medical and Surgical Journal*): On the afternoon of Thursday, November 19th, a young man 20 years of age, while fooling with some boys and girls, swallowed an open pen-knife, handle first. On telephoning the neighboring doctor, he was ordered to drink or eat nothing but milk, and take a dose of castor oil, Fortunately, this advice was not followed, and he came immediately to the city, where he arrived at 7:30 P. M. The castor oil was not given, but, instead, he was instructed to eat a hearty meal of mush and buckwheat cakes, and on going to bed directed to lie on his right side to facilitate the passage of the knife into the duodenum. The next day he was directed to spend most of the day on his right side, with the hips elevated, and to eat freely of any food he desired, but particularly of buckwheat cakes. He claimed that he felt the passage of the knife through the ilio-cæcal valve, from the very considerable pain which it caused. The bowels moved on Friday. On Saturday and Sunday the same food was prescribed, but on neither day did the bowels move. He claimed, however, that he felt the knife in the transverse colon, and on Monday in the sigmoid flexure, and late Monday that he felt it pricking him in the neighborhood of the anus. The bowels did not move on Monday, but on Tuesday morning about 11 o'clock there was an immense movement which brought away the knife, point first.

Had there been a diarrhœa present, I would have undoubtedly given opiates for the purpose of quieting the peristaltic action of the bowels. In all cases where a rough or sharp instrument has been swallowed, I believe that bulky non-concentrative food should be given for the purpose of filling and distending the bowels, thus preventing the object from catching in any of the numerous folds of the intestines. The knife, with the blade, measured 3 1-2 inches. The point was quite sharp, and the rivets in the handle projected a sixteenth of an inch, owing to the worn condition of the handle.

* * *

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	“	1-6th	“
1 decigramme	“	1½	grains.
1 gramme	“	15	“
1 decagramme	“	150	“
1 hectogramme	“	1,465	“
1 kilogramme	“	14,720	“
1 myriagramme	“	145,824	“

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	“	1-100th	“
1 decimetre	“	1-10th	“
1 metre	“	39 37-100th	inches
1 decametre	“	10	metres
1 hectometre	“	100	“
1 kilometre	“	1,000	“
1 myriametre	“	10,000	“

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water
1 centrilitre	“	150	“	“
1 decilitre	“	1,500	“	“
1 litre	“	(1 qt.) 15,000	“	“
1 decalitre	“	150,000	“	“
1 hectolitre	“	1,150,000	“	“

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.	
1 oz. “ “	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.	
1 gr. “ “	equal to	1 5-100ths minims.	
1 fl. drachm water at 60 deg. F.		56 96-100ths	grains.
1 fl. oz. “ “		455 69-100ths	“
1 fl. gallon “ “		231	cubic inches.
1 fl. pint “ “		28 87-100	“

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

SANTONIN IN AMENORRHŒA.—Dr. Amand Routh writes to the *Lancet*: Believing that the re-establishment of the catamenia in cases of amenorrhœa with constitutional disease (especially chlorosis) is helpful in restoring the patient to health, and knowing also that general remedies may be some months in producing that result, I have tried santonin, as suggested by Mr. Walter Whitehead (*The Lancet*, Sept. 5th, 1885—viz., ten grains of powdered santonin) to be taken on two consecutive nights. I omitted, however, the morning saline purge, wishing to avoid possible sources of error. I have tried the drug in twenty cases of amenorrhœa, thirteen of which were associated with anæmia or chlorosis, and failed completely in seventeen. In all, restlessness, yellow vision, and discolored urine followed the use of the drug.

Having related four of his cases, he concludes with the following remarks: My twenty cases seem to indicate that santonin, as a direct emmenagogue, is useless in amenorrhœa associated with chlorosis, in which cases I have often found permanganate of potash useful. In healthy or full-blooded women, santonin seems to have some power in starting a uterine flow, and apparently without causing much pain. Its mode of action, however, is quite unknown in this respect, and it seems not likely therefore to be much employed in gynæcological therapeutics.

In *The Lancet* of January 16, 1886, is published a communication from Mr. E. R. Williams in which he says: Since the publication of Dr. Whitehead's article I have treated all the cases of amenorrhœa that have come under my notice according to the method suggested by him—viz., ten grains of santonin taken on consecutive nights, omitting, however, the morning saline purge. I have thus given it in twelve cases, the majority of them being chloro-anæmic. In eleven it signally failed, and in a few the powder produced some unpleasant symptoms. In one only was it successful—that is, the catamenia came on in the morning after taking the second powder and lasted the usual time. As Mr. Whitehead has been so very successful in its use, and Dr. Routh and myself as equally unsuccessful, we must be guided as to its value by further experience. That it has some influence in starting the uterine flow (difficult though it be to understand how it acts) seems evident. How much that influence is will soon, I trust, be ascertained.

Cough Remedies.—The following formulæ are selected from various sources, and we do not vouch for their identity with the original preparations when they are supposed to be imitations of proprietary articles:

No. 1.—*Hill's Balsam of Honey and Tar.*

Take of—

Balsam Tolu	℥ 2	Honey	fl ℥ 8
Storax	ʒ 2	Mar, pine	fl ℥ 1
Opium	grs. 30	Alcohol	fl ℥ 32

Mix and macerate for five days, with occasional agitation, then strain, and bottle.

No. 2.—*Stoke's Expectorant.*

Take of—

This is quite a popular remedy in some localities.

Carbonate of Ammonia,	grs. 30	Paregoric	fl ʒ 6
Fluid Extract of Squill,	fl ʒ 1	Syrup of Tolu	fl ʒ 12
" " Senega,	fl ʒ 1	Water	fl ʒ 10

Dissolve the carbonate of ammonia in the water, and add the remaining ingredients. The dose is one teaspoonful.

No. 3.—*Ayer's Pectoral.*

Take of—

Acetate of Morphine,	grs. 4	Wine of Antimony	fl ʒ 3
Tincture of Sanguinaria	fl ʒ 2	" Ipecac	fl ʒ 3
Syrup of Wild Cherry	fl ʒ 3		

Mix.

No. 4.—Tolu, Rock, and Rye.

Take of—

Good Whiskey - Cognac	1	Rock Candy - -	℔ 4
Balsam tolu - -	℥ 2		

Put the whole into a two-gallon jug, set in a warm place, and agitate several times a day until the candy is dissolved. Then strain through flannel or coarse muslin.

No. 5.—Dellenbaugh's Cough Cure.

Take of—

Picrate of Ammonia, -	grs. 2	Extract of Licorice -	ʒ 1
Chloride of Ammonium,	ʒ 1	Water - -	fl ℥ 3

Mix and form a solution. Dose, one fluid-ounce every three hours.

No. 6.—Smith Bros.' Cough Drops.

Take of—

Sugar - -	parts 355	Extract of Licorice	parts 4
Powdered Charcoal	" 8	Oil of Sassafras	q. s. to flavor.
Oil of Anise	q. s. to flavor.		

Make into lozenges each weighing thirty-five grains.

No. 7.—Shiloh's Consumption Cure.

Take of—

Hydrochlorate of Morphine,	grs. 3	Diluted Alcohol - -	fl ʒ 3
Chloric Acid - - -	m 3	Chloroform - - -	fl ʒ 1
Fluid Extract of Henbane -	fl ʒ 2	Spirit of Peppermint - -	m 30
" " Ginger -	fl ʒ 3	Syrup of Tar - - -	fl ℥ 3
" " Wild Cherry	fl ʒ 3	Simple Syrup, q. s. ad. -	fl ℥ 3

Mix.

No. 8.—Jayne's Expectorant.

Take of—

Tartar Emetic - -	grs. 1	Tincture of Lobelia -	fl ʒ 1
Spirit of Camphor - -	fl ʒ 1	Syrup of Tolu - -	fl ʒ 1½
Extract of Ipecac - -	grs. 3	Tincture of Digitalis -	fl ʒ 1
Tincture of Opium -	fl ʒ 2	Syrup of Squill - -	fl ℥ 2

Mix. —*Medical World.*

Warburg's Tincture.

Take of—

℞ Socotrine Aloes -	℥xvj.	Prepared Chalk -	℥ij.
Rhubarb (East Indian)	℥iv.	Gentian - - -	℥j.
Angelica Seed - -	℥iv.	Zodoria - - -	℥j.
Confect. of Damocratis	℥iv.	Cubeb - - -	℥j.
Saffron - - -	℥ij.	Myrrh - - -	℥j.
Fennel Seed - -	℥ij.	Camphor - - -	℥j.
White Agairic - -	℥j.		

M

These ingredients are to be digested with five hundred ounces of proof spirit in a water-bath for twelve hours, then expressed, and ten ounces of quinine disulphate added, the mixture to be replaced in the water-bath till all the quinine is dissolved. The liquor, when cool, is to be filtered, and is then fit for use.

The dose varies from a drachm, when used as a tonic, to an ounce when given to break up a remittent or prevent a paroxysm of intermittent fever.—*Medical Bulletin.*

HOW TO BLISTER QUICKLY.—Put a few drops of the concentrated water of ammonia (aqua ammoniæ fort.) in a watch-glass, butter-dish, shallow cup, or other article of like nature, and cover with a pledget of cotton. This inverted and pressed closely to the spot to be blistered will accomplish this object in from 30 to 60 seconds. It should afterwards be treated as if produced by cantharides.—*Southern Clynic.*

THE TREATMENT OF PROFUSE HÆMOPTYSIS.—Dr. Samuel West, Physician to the Chest Hospital, Victoria Park. Thus concludes a paper recently read by him before the Medical Society of London:

The principles of treatment which have been considered may be briefly summarised as follows:

1. *Rest* (*a*) of body generally, (*b*) of part diseased. Many of the indications under this heading will be met by the use of opium.

2. *Hæmostatics.*—(1) The topical astringents; (2) the vascular constringents. Topical astringents cannot be applied to the bleeding part of the lung, and, if they act at all, it must be only as vascular constringents.

The belief as to the use of the vascular constringents in pulmonary hemorrhage is probably based upon an incorrect theory of the pathology, and reasons have been given why they can be expected to do but little, if any, good. Ergot was probably introduced on account of its efficiency in controlling uterine hemorrhage; but it is shown that the necessary conditions for its action do not exist in the lungs unless their action be by vascular constriction, and this is probably ineffectual.

As the risk of death in profuse hæmoptysis is not so much from loss of blood as from suffocation, and as profuse hemorrhage tends to bring about of itself the conditions most favorable to its cessation, an attempt may be made to imitate these conditions in treatment. When a vessel is divided hemorrhage ceases (1) from contraction of the vessel; (2) from clotting of the blood, aided by the great fall in blood-pressure which severe hemorrhage induces.

1. *Contraction of the Bleeding Vessel.*—The vessel is so diseased in hæmoptysis that its muscular coat can no longer act at the diseased spot, and therefore this condition cannot be fulfilled.

2. *Clotting of the Blood.*—There is, so far as I am aware, no drug which, by internal administration, can increase the clotting power of the blood.

The effect upon the blood-pressure can be imitated in various ways.

1. By free blood-letting from artery or vein. This old-fashioned method of treatment is as rational in cases of suffocative hæmoptysis as in apoplexy, for in both cases the risk to life is not from the loss of blood, but from the mechanical effects of the hæmoptysis upon the organ involved.

2. If blood-letting be inapplicable, the same end may be aimed at by detaining the blood in some part of the body other than the part diseased; (*a*) for example, mechanically; as by the use of Junod's boot, or free dry cupping; (*b*) or by dilating some of the great vascular systems of the body, and making them act as temporary reservoirs for the blood; (*a*) the abdominal system (purgation); (*b*) the cutaneous system; counter-irritation; possibly pilocarpin, or even nitrite of amyl. These two drugs dilate the vessels throughout the whole body, and might possibly be of great service. Some objections in theory to their action have been considered.

3. The blood-pressure may be further influenced through the heart: (*a*) by means of the cardiac depressants, of which antimony is the most reliable; (b) by the nauseating emetics, though their action upon the heart is probably

only a part of a more general action. Of the emetics, ipecacuanha was much used by Trousseau.

4. Lastly, dieting is of great importance. The principle of absolute rest and restricted diet, which is the essence of Tufnel's treatment for aneurism of the thorax and abdomen, is equally applicable and useful in pulmonary hæmoptysis.

Instead of giving a long list of drugs, or discussing in detail the various methods of treatment of hæmoptysis, I have endeavored in this paper to ascertain the conditions which have to be fulfilled, and to indicate the essential principles which should guide our choice of remedies. I have purposely avoided speaking of my own experience, desiring rather to elicit that of others; and, although some of the lines of treatment are, it is true, open to the objection that they are so far speculations, still it cannot be denied that our present treatment of hæmoptysis is far from satisfactory, and perhaps, from the nature of things, may be doomed to continue so. Speculation may, perhaps, suggest lines of treatment which experiment may follow out, and of the value of which observation alone is the true test.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

MEDICAL SOCIETY OF LONDON.

SOME MOOT POINTS IN THE NATURAL HISTORY OF SYPHILIS.

At the meeting held January 4, 1886, Mr. Jonathan Hutchinson, F. R. S., delivered the first Lettsomain lecture on the above subject.

Mr. Hutchinson said that if the question in debate could be once clearly stated, the duality or unicity of venereal poisons would soon cease to be a moot point. No one thought there were two forms of syphilis, and no one doubted there were two kinds of sores. Were they related or independent? Bassereau proved that chancroids were very contagious, and always produced sores like themselves. This process of syphilization was, however, only done on those who had had syphilis. This was a fallacy, for the patient might, in consequence of his prior syphilis, be insusceptible of fresh contagion. Danielsen, in Bergen, inoculated a number of lepers who had never had syphilis, and with similar results. Mr. Hutchinson insisted on the difference between a specific poison and a specialized poison. All inflammatory products were probably under favorable conditions contagious; the contagium might be a product of an inflammation that had originated spontaneously. It is possible that the poison which produces the chancroid is, after all, only a specialized inflammation product, and not a specific virus. Soft sores might be a mere appanage of syphilis. Many of the soft sores wanted the typical characters of a chancroid, and the absence of induration was the most universal characteristic. This want of uniformity, and the fact that the true chancroid on the genitals is seldom seen excepting in those who have had syphilis already, were strong arguments against specificity. If a person who has never suffered before contracts a venereal sore of any kind, it is highly probable that it will tend to syphilis. Dr. Morgan's (Dublin) experience placed this fact in a strong light. Thus it would seem that insusceptibility is a usual cause of non-occurence of induration. In using this argument he did not wish to deny that the typical chancroid is sometimes seen in those who have never had syphilis. Important evidence as to the origin of the chancroid, and of all non-indurated venereal sores, from syphilitic secretions was afforded by the experiments of Morgan, who inoculated syphilitics with purulent vaginal fluid of syphilitic women. Mr. H. Lee had shown that artificial irritation of a true chancre gives rise to a purulent secretion which is inoculable in the patient, producing a sore not distinguishable from chancroid. A parallel might be drawn between the chancroid process and phagedæna. All will admit that syphilitic inflammations have a remarkable tendency to become phagedænic. There is reason to believe that the chancroid type of inflammation might be only a kind of minimized phagedæna, and differ only in degree. If the virus of a chancroid be not specific, it is at least well specialized; and chancroids are very contagious and reproduce themselves with closely similar features.

Mr. Hutchinson next dwelt on the relations of hospital phagedæna to syphilis, and said it was not uncommon to see the disappearance of hospital gangrene claimed as one of the triumphs of antiseptic practice. He held this to be a mistake, whilst believing strongly in antiseptic surgery. Evidence in the form of clinical cases and outbreaks of hospital phagedæna was brought forward, showing that syphilitic sores could always, and even in unlikely instances, be made to account for the occurrence of hospital gangrene. Hospital phagedæna is very contagious, and spreads by contagium only; the previous health of the patient matters nothing, nor the salubrity of the ward. It never leads to constitutional syphilis. Accepting the hypothesis of its syphilitic origin, we have, then, a parallel fact to what is observed in the case of the chancroid. A specialized contagium has been bred up which can produce its like whenever inoculated, but which does not contain the virus of syphilis. It is easy enough to see that, if once the particulate virus of syphilis have died out of a secretion, the latter may then be propagated *ad infinitum* without the slightest possibility of reproducing the defunct elements. Mr. Hutchinson held that true chancres were the most likely to be attacked by phagedæna, and he believed that it occurred at a stage too late to prevent absorption. Phagedæna was a concomitant of a true syphilitic inflammation, and did not usually occur until induration had taken place. It denoted unwonted susceptibility to the influence of the virus, and was often followed by severe secondary symptoms. A knowledge of the fact that phagedæna usually accompanied true syphilis was of great importance in retrospective diagnosis in medical practice. Mr. Hutchinson believed that a scar or the remains of a phagedæna more often meant syphilis that not. Moreover, scars in the groin were most likely syphilitic. In private practice inflamed buboes were rare. It was not very exceptional for a typical chancroid to cause no enlargement of the glands. He could not lose sight of the fact that a great many infecting sores did inflame and suppurate, and when that was the case the glands would follow suit. In a group of six infants suffering from syphilis, the result of circumcision, no less than two had suppurating buboes, and another had large masses of agglutinated glands. He considered it possible that age and personal peculiarities often exercised great influence in the tendency to inflammatory action. The recognition of non-infecting venereal sores on other parts than the genitals, whether on the hands or elsewhere, was a matter of great difficulty. Mr. Hutchinson had never yet seen a suppurated bubo in the arm-pit in association with a venereal sore on the hand. So remarkable a fact might mean that a soft sore was very rare on the fingers, or that it very rarely caused bubo. Probably there was truth in both statements. Speaking of second attacks of true syphilis, Mr. Hutchinson referred to Ricord's statement of 1839, that an individual who had once had syphilis was not liable to it again. But in 1859 Ricord admitted, what several observers subsequently asserted, that second attacks were possible. The interval was generally long, and might be as long as twenty years. Mr. William Allingham published an interesting case, in which a man contracted syphilis in February; the induration of the primary chancre disappeared under mercurial treatment. In May a rash and a sore throat appeared, and mercury was again taken. Having left off the mercury for a month or more, he returned in July with another chancre, which was believed to be the result of fresh contagion; the second chancre was not in the site of the former one, but presented the most characteristic induration. This sore was followed by rupia and periostitis, and yielded but slowly to mercury. Mr. Hutchinson admitted the difficulties of the case, but felt sure that we not unfrequently encountered most startling exceptions to general rules.

Treating next of periods of incubation, Mr. Hutchinson gave his own experience as leading him to believe that the period was a more or less definite one of four or five weeks, thus differing from Sigmund of Vienna and Ricord. Berkeley Hill said that twenty-four days was the average, but from ten to forty-six days were the limits. In the case of a medical man who had vaccinated himself in the forearm from a syphilitic infant, the punctures, which had quite healed, became irritable on the twenty-first day, and were well indurated on the forty-first. Coming next to recurrent chancre, Mr. Hutchinson said he was the first, he believed, to draw attention to the very curious group of cases which illustrated recurrence, but two years after his brief paper Fournier wrote a masterly account. It was quite possible, and not a very rare occurrence, for indurations to develop in the retro-coronal fold of the prepuce which were not consequent on any fresh contagion. They usually, but not invariably, occurred in the site of former chancres. They might occur at very various periods after syphilis, but ordinarily within five years. He thought that too much importance had been attached to the condition of induration as an almost essential characteristic of the initial lesion of syphilis. The absence of induration went for very little in the way of evidence. In many cases induration lasted but a short time. It was often ill marked in women, and its characteristics varied much in relation to the special tissue affected. If we admitted this, we might still hesitate to admit that syphilis could begin without any chancre whatever. Yet, for practical purposes, that was the conclusion to which we must come. No doubt a slight sore might be overlooked. Was it possible that intra-urethal chancre might occur without pain or obstruction, and without external hardening and without discharge? Such was the suggestion of some, but it did not seem very probable. The frequent occurrence of cases in which syphilis followed what was considered to be only gonorrhœa suggested the suitability of recognizing what we might call gonorrhœal syphilis. In explanation of facts adduced by Lee and Berkeley Hill, it might be admitted at once that there was nothing in the least improbable in the supposition that the particulate virus of syphilis might exist in gonorrhœal pus. Basset and Tamorowsky, both quoted by Berkeley Hill, made experiments apparently proving that gonorrhœal pus either from the male or the female could not induce a chancre followed by syphilis. Their experiments were made on non-syphilitic subjects.

The last question on which Mr. Hutchinson touched was the possibility of the conveyance of syphilis by translucent vaccine lymph. The belief that it was necessary to draw blood, or at any rate to allow the vesicle to drain after emptying it, and thus permit the escape of fresh leucocytes, could no longer be entertained. The fact that apparently pure lymph from vaccinia of a syphilitic infant could cause true syphilis in a non-syphilitic individual must be held to have been proved as the result of some inoculations made on himself by a member of the medical profession (this was an allusion to a case which has already been made public). The interest of this demonstration did not end with its relations to the practice of vacination. It proved that the virus of syphilis might exist in a perfectly clear fluid and in company with that of another specific fever.—*Lancet.*

REVIEWS.

THE PRINCIPLES AND PRACTICE OF MEDICINE.—By the late CHARLES HILTON FAGGE, M.D., F. R. C. P., Physician to, and Lecturer on, Pathology at Guy's Hospital; Examiner in Medicine in the University of London; Senior Physician to the Evelina Hospital for Sick Children, etc. Including a Section on Cutaneous Diseases, by P. H. Pye-Smith, M.D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by Samuel Wilkes, M.D., F. R. S., Physician to Guy's Hospital and to the Royal Hospital for Children, London; and Complete Indexes by

Robert Edmund Carrington, M.D., Assistant Physician to Guy's Hospital, London. Volume I. Philadelphia: P. BLAKISTON, SON & COMPANY, 1886. Pp. 1040.

Second Notice.

In his introductory chapter, Dr. Fagge says: "I hold, therefore, that in constructing a nosology, the main thing to be attended to, is that each disease should represent a homogeneous group of cases, resembling one another in their principal features." Whenever the whole of a group of cases can be traced to a single structural change, he thinks that this should properly be regarded as the most essential element in the definition of the corresponding disease, and that it should, if possible, furnish the name; but if the effect of several lesions are identical, so that they are clinically undistinguishable from one another, that it is often better to keep them united under a common designation. "It is often far more important," he says, "to know the 'proximate' than the 'ultimate' diagnosis. Above all, I wish to protest against the statement so commonly made, that it is 'incorrect to call hemiplegia, or ascites, or any like condition, a disease, *because* it is really only a symptom.' * * * So long as we are unable, either during life or after death, to discover any cause for a set of clinical phenomena, they certainly are not symptoms, for they indicate nothing. There can be no symptom until the disease of which it is a symptom is discovered. As the process of analyzing a case, or a group of cases, advances, that which we call the disease is rightly changed at every step; and each 'disease' becomes in its turn a 'symptom' of the disease which succeeds it." Thus, he thinks that to say that a patient has "hepatic ascites is far more accurate than to speak of him as affected with cirrhosis of the liver," if, after all, we are not certain that the lesion may not be peri-hepatitis, or cancer, or gummata. So to define a cerebral case as one of "hemiplegia" is much better than to call it "softening of the brain," if the lesion is really but little less likely to be a clot of effused blood, or a tumor, or an abscess. When, however, in other cases we can be sure that cirrhosis of the liver or that softening of the brain is present, it is obviously better to name such cases according to their respective lesions.

Under the heading General Morbid Processes are discussed, each in a separate chapter, contagion, fever, inflammation, tubercle, tumors, and syphilis. In the section on contagion due justice is done to the subject of bacteriology. In regard to the stamping out of infectious diseases, Dr. Fagge's views will be likely to excite considerable criticism and discussion. He thinks that as it is well known that the exanthemata sometimes rage with extraordinary virulence when they are introduced into communities that have been free from them for a great length of time, it is possible that the reason may be that the victims come of a stock which has not for many generations been exposed to contagion; and that it would be very interesting to investigate to what extent differences in the severity of a specific disease, attacking various individuals under the same conditions, in countries where it is always more or less prevalent, may depend upon whether one or both of the parents of the several patients had had the disease in childhood, or at least before the patients themselves were born. These considerations seem to him to render very doubtful the advisability of attempting, even if it were practicable, to eradicate infectious diseases from a country, and then to keep them off by a system of quarantine. Sooner or later each disease would be sure to find an entrance, and it would probably commit unheard of ravages among a population so long free from it. He doubts whether it is even right to teach the public to look upon the maladies in question as in a special sense "preventable," and it seems to him that the true method of combating infection is that of which we have an illustration in the practice of vaccination; while there is reason to hope that in the future this method may be far more widely extended than hitherto. With what profound interest, therefore, would our author have looked upon the systematic course of experimentation in regard to inoculation against hydrophobia upon which Pasteur has been of late so devotedly engaged, and which seems likely to be crowned with success? After saying that one could not render a greater service to humanity than by discovering how to transmit the contagion of scarlet fever through any of the lower animals in such a way that, when reintroduced into the human subject, it should convey protection without risk, he goes on to remark that he is not even sure whether it might not be well to expose children, on purpose, to infection from this disease, when it happens to be epidemic in a mild form. To the objection that a mild case often generates a severe one, he brings forward the point that it is at least possible that this may only be true when the disease was originally of a severe type, and when it has chanced to produce a slight illness in an individual who (having inherited protection) is but little susceptible of it, so that it reverts to its original character when it passes on to a subject not thus guarded against it. May it not be, he asks, that where scarlet fever prevails in an unusually mild form in any locality, it is because the activity of the virus has been lowered by passing through a number of persons in succession, each of whom was only slightly susceptible of it? If so, he adds, we may possibly find a very simple means of obtaining a virus suitable for inoculation, without having recourse to the lower animals. That the above is the true explanation of light epidemics of scarlatina seems open to question, from the fact that sometimes it prevails in a very mild form in communities where it has not appeared for many years or perhaps for generations, or even where it had never before been known. It is possible, however, that where an epidemic is thus mild, it may be because the activity of the virus which conveyed the contagion to the locality had been modified in the manner suggested by Dr. Fagge.

In speaking of the origin of tubercle the author is not disposed to acknowledge the causative agency of Koch's bacillus, and states that the view that infection from without is the most essential part of the etiology of tubercular diseases seems to him to be altogether inconsistent with clinical observation. He thinks it probable, however, that under certain unknown conditions, the occurrence of what is at first a simple inflammatory process may cause microzymes already existing in the body to acquire specific properties that they did not previously possess, and to convert the simple inflammation into a tuberculous one. For this hypothesis he believes there are abundant analogies among the various acute infective inflammations.

The work next takes up in order the different specific diseases, commencing with typhus and ending with the epizoötic diseases affecting man—glanders, anthrax, and foot and mouth disease. In regard to enteric, or typhoid, fever the author expresses his positive conviction that it never originates *de novo*, but is always produced from a previous case. In the treatment of this disease he says that it must be understood that the fundamental proposition upon which the antipyretic method of treating the affection is based is that pyrexia is harmful, not because the bodily tissues undergo rapid waste in the maintenance of febrile heat, but because they are affected injuriously by exposure to a high temperature, especially when it is kept up for a length of time and without intermissions. While almost all observers are agreed that no method of treatment has yet been discovered by which the course of enteric fever can be shortened, he is unable to see any absurdity in supposing this to be possible.

While not committing himself positively upon the point, Dr. Fagge is inclined to the opinion that rötheln is probably a variety of measles. Its exact nature, like some other problems, will, he thinks, be ultimately settled by the experience of general practitioners practicing in the less crowded districts of the country.

In treating of the *contagium vivum* of malarial fever, he says that it is a significant fact that the other disease in which the presence of a peculiar organism in the blood has been most clearly traced—relapsing fever—should itself be characterized by a definite interruption in its pyrexia, which may fairly be taken as bearing some relation to the intervals between the successive paroxysms of an ague. And the analogy, he remarks, tempts one to regard the hypothesis that during each paroxysm the bacilli, if they really constitute the malarial poison, are in great part destroyed, and that their reaccumulation is in some way the cause of the next paroxysm; though, if so, it is difficult to understand how the periodicity can be maintained when no well-marked ague fits occur. The article on dengue is very brief, and the author does not make any attempt to discuss the pathological character of the affection.

In the etiology of diphtheria the first point to be insisted on, he thinks, is its contagiousness; and though he is prepared to allow that no criteria, based either upon morbid anatomy or upon clinical symptoms, avail to distinguish laryngeal diphtheria from croup, he expresses himself as very far from admitting the identity of the two diseases. The article on cholera, as stated in a foot-note by the editor, was written before the discovery of the comma-bacillus by Koch.

The sections on diseases of the nervous system and the neuroses, including the various forms of insanity, are quite full (occupying about 450 pages), and are for the most part satisfactory, and in accordance with the latest views of the most eminent neurological authorities.

This first volume is concluded with a consideration of the diseases of the respiratory system, which occupies some 250 pages. In speaking of the treatment of croup, after mentioning that of late years it has become more and more the practice to open the trachea early, he expresses the opinion that if it is certain that the case is not one of spurious croup, the operation should very seldom be postponed beyond the time when the chest-walls begin to be much sucked in during the act of breathing. No reference is made to the matter of intubation of the larynx as a substitute for tracheotomy.

In discussing the question whether pneumonia is a specific fever, after presenting the arguments of Jürgenson in favor of this view, he remarks that he cannot say the facts stated in regard to the etiology appear to go very far toward disproving the common opinion that it is essentially a local inflammation accompanied by a symptomatic pyrexia. He was not, however, at the time this was written probably aware of the existence of the so-called pneumo-coccus of Friedlander, though this is referred to in a foot-note by the editor. A little further on he says: "The truth seems to be that the question of the real pathology of pneumonia is involved in a much wider one, to which at present no positive answer can be given. We have seen that many modern observers believe that no form of spreading inflammation is due merely to the reaction of the organism against a local injury. If this be the case, some specific exciting cause, such as Jürgensen assumes for pneumonia, must be supposed to be present in a vast number of other inflammatory diseases. Probably many years will pass before the true relations of all of them are fully understood. In the meantime it would not be really advancing in the right direction to detach pneumonia from other thoracic affections, with some of which it may, after all, prove to be closely allied, or to force it into a close relation with the group of acute specific diseases, as now understood, from which it certainly differs in many important particulars." The researches of the next few years will no doubt throw a good deal of light upon the points here alluded to.

In the chapter on phthisis he states his belief that all ordinary cases of phthisis are essentially of the same nature, viz., tubercular; and that the varied appearances which may be found in the lungs after death depend mainly upon whether the tubercles and the tuberculous infiltration become caseous or undergo fibrous changes. Granting the pathognomonic character of Koch's tubercle baccillus, the ultimate decision of this question must rest upon whether this organism is or is not present in cases of phthisis, supposed to belong to different forms. Having remarked that in discussing the subject of tubercle in general he had endeavored to show that histology opposes no insuperable difficulties to the doctrine of the unity of phthisis, and, indeed, that there are no differences at all which are not equally in the way of the recognition of miliary tuberculosis as a definite affection, he goes on to say: "But my own opinions with regard to phthisis have been based not so much upon microscopical investigations as upon the results of careful study of the appearances seen in the post-mortem room of Guy's Hospital during a long period of years; and I cannot help thinking that any unprejudiced observer who should use his eyes would inevitably be driven to the same conclusion. Without wishing to detract from the importance of histological inquiries, I am under the impression that the practice of setting aside minute fragments of diseased organs for study at a future time, when the general morbid anatomy of the case has been forgotten, is very apt to lead to one-sided and partial views. What I have found is, that in the same body lesions which would be universally admitted as tubercular, are associated inextricably with other lesions, of which the tubercular nature would by many pathologists be denied."

The author's views on therapeutics are apparently comprehensive and sensible in the main, but for a work of such extent the notes in this department are often very brief and unsatisfactory. The book is well printed in clear type, and reflects much credit on the publishers. The appearance of the second volume, which will include the matter contributed by Drs. Pye-Smith, Wilkes, and Carrington, will be looked for with interest.

TEXT-BOOK OF OPHTHALMOSCOPY. By EDWARD G. LORING, M.D. Part I. The Normal Eye, Determination of Refraction, Diseases of the Media, Physiological Optics, and Theory of the Ophthalmoscope. New York: D. Appleton & Co., 1886.

The first part of this work has been long looked for, and will without doubt be most cordially treated. It consists of six chapters and an appendix, and is profusely illustrated. The first chapter is a brief one, and is devoted to some preliminary remarks on the ophthalmoscope. The second chapter is devoted to a description of the examination of the fundus of the eye with the ophthalmoscope, and of the two methods of examination by the inverted image and the upright image. For the purposes of dilating the pupil for ophthalmoscopic investigation the author recommends the employment of Savory and Moore's gelatine atrophine wafers, varying in strength from $\frac{1}{20,000}$ to $\frac{1}{100,000}$ of a grain of atropia. The third chapter contains the anatomy of the fundus of the normal eye, and is admirably illustrated. The author employs the term "bulb" in place of the term "eye-ball," following in this the custom of German writers. He also uses the term "nerve-stem" when speaking of the trunk of the optic nerve, and the term "staging" to designate the connective-tissue frame-work of the optic-nerve and retina; both of which terms, we think, are to be deprecated. The fourth chapter considers the subject of the fundus of the normal eye and is very clearly presented. Loring believes that the fact that we do not always see the larger vessels of the choroid depends, not on the pigment layer alone, but upon the nature and anatomical construction of the choroid itself; and "that the general uniformity of surface which is noticed, as a rule, is due principally to the great number and closeness of the small vessels and capillaries, which lie over the larger vessels, and give the appearance, as a whole, of a more or less uniform and homogeneous texture." According to this view, the color of the fundus would be due to "reflection from the blood contained in all the choroidal vessels combined, tempered by the pigment contained in the epithelial layer, and influenced to a far greater degree by the stroma of the choroid." To this may be added a certain portion of white light reflected from the sclera. Loring also calls attention to the fact that the fundus of the normal eye never assumes the color of the blood itself, for the contrast between the blood in the retinal vessels and that of the general fundus is always clearly defined. The author calls attention to the necessity of avoiding confounding any diversity in shape of the optic nerve and the various inclinations of its long diameter, due to anatomical construction, with the same appearances sometimes produced by astigmatism. Due attention is given to the appearance and construction of the lamina cribrosa in the optic nerve, and to the true nature of the "scleral opening." He refers to the great difficulty which sometimes exists in determining the exact nature of irregular excavations which are sometimes met with in the optic disc. He says with justice that the term "congenital" must not be confounded with the term "physiological." The appearance of the blood-vessels is carefully considered, and the author notes the fact that the tortuosity of vessels is, when physiological, always a lateral one. He assumes, with other writers, that the venous pulse is the expression of a want of equilibrium, dependent on the action of the heart, between the amount of lateral pressure exercised by the blood-column within the vein, and that exercised from without by the surrounding media. Careful consideration is given to the phenomenon of the light streak along the vessels, and to the region of the macula lutea with its peculiar reflex. This entire chapter will fully repay a very careful reading. The fifth chapter is devoted to a consideration of the determination of the optical condition of the eye with the ophthalmoscope, and is written with great care and equally great clearness, so that even a child might understand.

The author does not think much of the method of determining the refraction with the mirror alone, and which has received the names of "Keratoscopy," "Pupiloscopy," and "Retinoscopy," and regards it as the most difficult and least satisfactory of any of the methods employed. In the sixth chapter we come to the subject of the examination of the media of the eye in their physiological and pathological condition, and we would especially commend the section on the "differential diagnosis of troubles in the media" for its simplicity and brevity. The appendix is, perhaps, the most important chapter in the book. It opens with an account of the general principles of the ophthalmoscope and the theory of its construction, and the author then proceeds to give all the fundamental facts and theories in the great field of physiological optics. We are confident that the reader will read the entire work with pleasure, and we are certain that Dr. Loring will receive the thanks of the profession for the admirable work which he has given them. We also hope that he will not keep us waiting as long for the second part as he did for the first. The pleasure of reading and the value of the volume are enhanced by the almost princely dress with which the publishers have clothed it. Paper and letter-press are simply perfect, and the execution of the illustrations, especially of the beautiful chromolithographs, leaves nothing to be desired.

A GUIDE TO THE PRACTICAL EXAMINATION OF URINE. FOR THE USE OF PHYSICIANS AND STUDENTS. By JAMES TYSON, M.D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania; One of the Physicians to the Philadelphia Hospital; Fellow of the College of Physicians of Philadelphia, etc. Fifth Edition. Revised and corrected. With colored plates and wood engravings. Philadelphia: P. Blakiston, Son & Co. 1886. Pp. 249. Price, $1.50.

It would be difficult to see how any practitioner or student who is not already the happy possessor of "Tyson on the Examination of Urine," could invest a dollar and a half to greater advantage than in purchasing this admirable treatise. The demand for it has been steadily increasing since its first appearance, showing how fully its solid worth has been appreciated by the profession; and it will be found that its accomplished author has not failed to render it still more deserving of the confidence bestowed upon it in the present edition, in which due attention has been paid to the new and delicate tests for albumen which have been discovered during the last few years, and to those constituents of urine which the use of these tests has rendered of much greater inportance than formerly. The work presents all the essential points connected with the examination of the urine in a most clear and satisfactory manner, and as a practical guide, such as this aims to be, it seems, indeed, to leave little to be desired.

BOOKS AND PAMPHLETS RECEIVED.

"Lectures on the Diseases of the Nose and Throat." By Charles E. Sajous, M.D. Philadelphia: F. A. Davis, Att'y, publisher.

"Puerperal Convalescence and the Diseases of the Puerperal Period." By Joseph Kucher, M.D. New York: J. H. Vail & Co.

"Transactions of the Louisiana State Medical Society, 1885."

"The Journal of Reconstructives, Dietetics, and Alimentation." Vol. 1, No. 1. January 1, 1886. Wallace Wood, M.D., editor. Published quarterly by John Carnrick, New York. 50 cents per annum, in advance.

"The Physiological and Pathological Effects of the Use of Tobacco." By Hobart Amory Hare, M.D., B. Sc. (Fiske Fund Prize Dissertation, No. xxxiv.) Philadelphia: P. Blakiston, Son & Co.

"The Field and Limitation of the Operative Surgery of the Human Brain." By John B. Roberts, A.M., M.D. Philadelphia: P. Blakiston, Son & Co.

"Decisions Under Medical-Practice Laws." Reprinted from the "Seventh Annual Report of the Illinois State Board of Health, 1884."

"An Experimental and Clinical Study of Air-Embolism." By N. Senn, M.D., of Milwaukee, Wisconsin. Extracted from the "Transactions of the American Surgical Association," Vol. III., 1885.

"Diphtheria and Its Management. Are Membranous Croup and Diphtheria Distinct Diseases?" By Joseph E. Winters, M.D. Reprinted from *The Medical Record*, December 5, 1885.

"The Surgical Treatment of Cysts of the Pancreas." By N. Senn, M.D., of Milwaukee, Wisconsin. Reprinted from the *Journal of the American Medical Association.*

"National Conference of State Boards of Health." Reprinted from the "Seventh Annual Report of the Illinois State Board of Health, 1885."

"Remarks on the Treatment of Urethral Stricture by Combining Internal and External Urethrotomy." By Reginald Harrison, F.R.C.S. Reprinted from the *British Medical Journal.*

"Clinical Lecture on Disease of the Heart and Lungs, with Special Reference to Physical Diagnosis." By Stephen Burt, M.D., Professor of Physical Diagnosis in the New York Post-Graduate Medical School and Hospital. Reprinted from the *New Yorh Medical Journal.*

"A Case of Fatal Ear Disease, Beginning as a Circumscribed Inflammation in the Outer Half of the External Auditory Canal." By Charles J. Kipp, of Newark, N. J. Reprinted from the "Transactions of the American Otological Society," 1885.

"Sixteenth Annual Report of the Manhattan Eye and Ear Hospital, with Throat and Nervous Departments, 1885."

"The Preservation and Prolongation of Life to One Hundred Years." By Protheroe Smith, M.D. (British Association for the Advancement of Science. Aberdeen Meeting, 1885.)

"Avena Sativa in the Treatment of Opium Addiction. A Therapeutical Fraud, a Delusion and a Snare." By J. B. Mattison, M.D. Brooklyn, N. Y. Reprinted from the *Medical Bulletin*, Philadelphia.

"Alcohol in the Treatment of Acute and Chronic Forms of Alcoholic Mania." By Lewis D. Mason, M.D. Reprinted from the *New York Medical Journal.*

"A Reply to a Letter entitled: Dr. Joseph Holt and Steam as a Disinfectant." Reprinted from the November number of the *New Orleans Medical and Surgical Journal.*

"Commercial Relations with Brazil as Affected by Quarantine Regulations." Reprinted from the *New Orleans Press.*

"Iritis: Its Relation to the Rheumatic Diathesis and its Treatment." By Charles J. Lundy, A.M., M.D. Reprinted from the *Physician and Surgeon.*

"The Induction of Premature Labor in Certain Cases." By Walter Coles, M.D. Reprinted from the *St. Louis Courier of Medicine.*

"Note on a Form of Post-Neuralgic (Encephalatrophic or Cerebrasthenic) Insanity." By C. H. Hughes, M.D., St. Louis. Reprinted from the *Alienist and Neurologist.*

"The Rôle of Bacteria in Parturition." By Henry O. Marey, A.M., M.D. Reprinted from the *Journal of the American Medical Association.*

"Report of the Surgeon-General of the Navy for 1885." Washington: Government Printing Office, 1885.

"The Local Option Bill and the Medical Profession." By Wm. H. Doughty, M.D., Augusta, Ga. Reprinted from the *Atlanta Medical and Surgical Journal.*

"Transactions of the American Dermatological Association at the Ninth Annual Meeting, held at Indian Harbor Hotel, Greenwich, Conn., on the 26th, 27th, and 28th of August, 1885." Official Report of the Proceedings of the Secretary, W. T. Alexander, A.M., M.D.

"Joint Diseases: Treatment by Rest and Fixation." By De Forest Willard, M.D., Philadelphia. Reprinted from the *New York Medical Journal.*

"Surgical Treatment of Infants." By De Forest Willard, M.D. Reprinted from the *Medical and Surgical Reporter.*

"Rectal Medication." By D. W. Cottrell, M.D. Reprinted from the "Transactions of the Medical and Chirurgical Faculty of Maryland, 1885."

"Florida as a Summer Resort for Invalids." By R. B. Burroughs, M.D. Jacksonville, Fla.

"A New Electric Light for the Diagnosis and Treatment of Diseases of the Nose and Throat, with a Practical Demonstration." By Wm. Chapman Jarvis, M.D. New York.

"Thirty-third Annual Announcement of the Medical Department of the University of Vermont." For the Year 1886.

MISCELLANEOUS.

CASE OF SPASMODIC ASTHMA CURED BY ELECTRICITY.—DR. E. Paget Thurstan reports the following case in the *British Medical Journal:*

W. H., aged 42, a coachman, sent for me in March, 1884. When he came under my care he had attacks of dyspnœa, with intervals of comparative, and sometimes almost complete, ease. The attacks of dyspnœa most frequently began about 3 or 4 A. M., and lasted until 8 or 9 in the evening; they were very severe. There was an indistinct cardiac impulse in the epigastrium; the area of cardiac dullness was increased, and extended lower than and to the right of its proper position. The aortic sounds were not very loud, and were heard only to the right of the mid-sternal line. There was no murmur or reduplication of sounds. The pulsation of the carotids was very distinct. Rhonchi were audible over the subclavian region on the right side, and very occasionally on the left, but resonance was normal. There was some enlargement of the liver and spleen. The bowels acted regularly, but he had a feeling of fullness and drowsiness after meals, and flatulence; latterly these had been better, as he had been omitting cabbage and green vegetables, cheese, pastry, etc., from his dietary, having discovered, by experience, that a supper including these was a certain prelude to a severe attack of dyspnœa. He had always been moderate in the matter of drinking.

On March 24th, 1884, after using an interrupted current with bichromate of potash cell daily for a fortnight along the edge of the sterno-mastoids, from the level of the jaw to the sternum, he was free from dyspnœa; but the pulsation of the carotids in the neck continued, and rhonchi were still to be sometimes heard under the right clavicle. He had not been free from attacks for so long a while since November, 1883; he could now run up hill without distress.

On April 4th, after continuing this treatment for a month, the rhonchi had disappeared. There were no attacks of dyspnœa, the pulsation of the carotids was less, and he felt quite well. He returned to work as a coachman.

In August, 1885, I accidentally saw him, and he told me that, though exposed to a severe east wind the day after he again mounted the box, he had remained free from bronchial attack, and that he had been in daily work ever since I last saw him, and had had no return of dyspnœa.

Remarks.—Cases of this kind are precisely those of which vendors of quack medicines love to get hold, cases where medical men have tried and failed to alleviate symptoms, and yet where there is no organic disease. My view of the case was that it was irritation of the phrenic nerves, occurring in a gouty subject. As he was dieting himself, and his bowels were acting regularly, there seemed no occasion for medicine. The rapid improvement must have been due to the electricity, I think, as it was so marked, and in such contrast to the previous failures. The permanence of the relief shows how purely functional the disorder was, and at the same time shows that a disturbance may last many months, and yet prove not to have had any organic origin.

POISONING BY CARBOLIC ACID.—The following case, reported by Dr. Wm. Bodkin, in the *British Medical Journal*, is of unusual interest on account of the rarity of recovery from carbolic acid poisoning: The Rev. G. B. H., aged 81 years, chaplain to the Chelmsford Infirmary, is in the habit of carrying a small vial of brandy, to take in case of faintness. On November 25th, he had, by mistake, an ounce vial of carbolic acid (Calvert No. 5); of this he swallowed a mouthful, about three drachms. He quickly discovered his mistake, and applied to the matron of the infirmary for help. She gave him some olive-oil first, aftewards some mustard and water. When I saw him, he was unconscious; his mouth was open, and he was breathing with difficulty. That was about twenty minutes after swallowing the acid, and he had not vomited. It took me about ten minutes to get and introduce the stomach-pump. It was then about half-past 1 o'clock. At first I found I could extract nothing; I therefore pumped in a quart of warm water, and then pumped it out again; I continued to pump a quart of warm water in and out, until the fifth quart was pumped in; then he vomited. I had to take out the tube, lest he should be choked, as he was still unconscious. As the washing smelt very strongly of the acid, I re-introduced the tube, and continued washing out the stomach as before, until I had done so for the ninth time. Then he opened his eyes in a semi-conscious condition. I next pumped in half a pint of warm milk, with an ounce of brandy, and the patient was put to bed. As consciousness returned, he began to retch; the stomach would keep nothing down for twenty-four hours. I feared I should lose my patient from exhaustion; I tried enemata of peptonized beef-tea, but the constant retching and prostration did not permit their retention. The mouth and throat looked as if cauterized, and doubtless the œsophagus and stomach were in the same condition. The irritation of the throat made swallowing very painful, and constant coughing helped to make matters worse. Ice, iced-milk, with pepsine, and pancreatine (Benger's preparations) were persevered with for about ten days, when the patient had a little solid food for the first time. He left the infirmary on the fourteenth day for his own home. The temperature kept about 102° Fahr. during the first four days; the urine did not lose its peculiar green color for three days.

Remarks.—The termination of this case is very satisfactory, considering the age of the patient and the quantity of acid swallowed. The particular point I wish to bring before the profession is, the difficulty of getting all the carbolic acid out of the stomach. The washing smelled of the acid until the ninth time; it seemed nearly free then, and then it was that the patient first showed any signs of consciousness; and in half an hour afterwards he was fully conscious. The difficulty of removing the acid will be understood when it is remembered that it does not easily mix with water, and is much heavier than it, and so will lie at the lowest part of the stomach, and probably escape the tube; under these circumstances the only trustworthy guide will be the smell of the water when pumped out. This case leads me to draw the following conclusions: that, for carbolic acid, though there be enough of the poison absorbed from the stomach into the blood to cause profound unconsciousness and collapse, yet, if the stomach be thoroughly washed out, the patient will revive and probably recover. I had the assistance and advice, in the management of the case, of the following gentlemen: Messrs. Carter, Nicholls, Waller, and Wheeler, members of the medical staff of the infirmary.

THE FUTURE OF THE MEDICAL CONGRESS.—We adhere to our view that outsiders do best in leaving all healing processes to those on the spot. Domestic differences are best adjusted at home. We abstain, therefore, from expressing any opinion on any particular suggestion. We only say "Blessed are the peacemakers," and repeat the expression of our hope that, for the sake of the profession in the United States and throughout the world, this great cause may be yet crowned with such success as a united profession in the United States cannot fail to ensure.—*Lancet.*

DETERMINATION OF THE SEX OF THE FŒTUS.—The possibility of determining, or rather of making a good guess at, the sex of a fœtus before birth has occupied the attention of a good many observers at various times. One of the latest contributions to the elucidation of this question is supplied by a paper by Señor Juan B. Bidart, who examined one hundred cases—ninety-nine in the maternity ward of the San Francisco de Borgia Hospital in Santiago, Chili, and one at home—his own wife, in fact. His observations were mainly directed to rapidity of the beats of the fœtal heart at the termination of pregnancy; and the conclusion he arrived at was that, when the number of beats is below 135 a minute, the child is usually a boy, and when the number is above 145 it is generally a girl. He found that under these circumstances he could diagnose the sex correctly in 92 per cent. of the cases. When, however, the beats were between 135 and 145 it was quite impossible to do more than guess at the sex. Frequent examinations must be made before the rupture of the membranes, so as to obviate the chance of mistaking a temporary irregularity for the ordinary rhythm. Of course the auscultation must be made in the intervals between the pains, if labor has already commenced.—*Lancet.*

AN ADVENTUROUS FAIR ONE.—In Aston's "Old Times. A Picture of Social Life at the End of the Eighteenth Century," the following clipping from the London *Times* of November 4, 1799, is published:

There is at present in the Middlesex Hospital a young and delicate female, who calls herself Miss T–lb–t, and who is said to be related to some families of distinction; her story is very singular. At an early period of her life, having been deprived by the villainy of a trustee of a sum of money bequeathed her by a deceased relation of high rank, she followed the fortunes of a young naval officer, to whom she was attached, and personated a common sailor before the mast, during a cruise in the North Seas. In consequence of a lover's quarrel she quitted the ship and assumed, for a time, the military character; but, her passion for the sea prevailing, she returned to her favorite element, did good service, and received a severe wound on board Earl St. Vincent's ship, on the glorious 14th of February, and again bled in the cause of her country in the engagement off Camperdown. On this last occasion her knee was shattered, and an amputation is likely to ensue. This spirited female receives a pension of £20 from an illustrious lady, which is about to be doubled.

ACCOUCHEMENT BY FIRE ARMS.—Dr. Granier, surgeon in the French army (*Journal de Medic. de Paris.—Cincinnati Lancet and Clinic*) writes from Algeria: "A few days after the occupation of Brizerte, when the military authorities had forbidden, under the severest penalties, the discharge of fire-arms within the town, the whole garrison was awakened at three o'clock one morning by the tremendous explosion of a heavily loaded gun in the neighborhood of the ramparts; a guard of soldiers rushed into the house from whence the sound had come and found a woman lying on the floor, with a newly born babe between her thighs. The father of the child stood over his wife with the smoking musket still in his hand, but his intentions in firing the gun had been wholly medical, and not hostile to the French troops. The husband discovered that his wife had been in labor for thirty-six hours. Labor was slow and the contractions weak and far apart. He had thought it advisable to provoke speedy contraction, and following the Algerian custom to scare the baby out, he had fired the musket near his wife's ear; instantaneously the accouchement was terminated. After being imprisoned twenty-four hours the Arab was released.—*Weekly Medical Review.*

HOW SHALL THE PRACTITIONER DISINFECT HIS HANDS?—A thoroughly efficient disinfection of the physician's hands, remarks the *Therapeutic Gazette*, is more than a matter of personal cleanliness; it is an absolutely required, though often neglected, protection of his own person and the safety of his family, friends, and patients. There being no dissenting voice as to the necessity of this by no means irksome precaution, the only question that can arise in this respect is, What method of disinfection insures the greatest success? The present state of bacteriology must convince even the most skeptic and conservative physician that soap and water exercise not the slightest influence over the microbial organisms, and that the true antiseptic agents have to be resorted to. Forster, of Amsterdam, made some special researches in this field (*Pharm. Centralblatte*, May 28, 1885) with the view of ascertaining the relative worth of carbolic acid, boric acid, chloride of zinc, and iron. He gained the conviction that the ordinarily used two and one-half per cent. solution of carbolic acid, and even Billroth's plan to wash the hands in muriatic acid and ten per cent. phenol in glycerine, were insufficient to sterilize the hands, that is, prevent microbic growth on them. The only process that Forster found absolutely reliable was recently recommended by Koch, of Berlin, which consists in a solution of corrosive sublimate having a strength of seven to fifteen grains to two pints of distilled water. The simplicity of the manœuvre and its unquestionable prophylactic power will go far to recommend Koch's wash to the American practitioner.—*Boston Med. and Surg. Journal.*

A Slight Misunderstanding.—Board of Health Officer. "Mrs. McGinniss, I told you last month that the keeping of that pig up here was a nuisance, and that it would have to be abated." Mrs. McG. "An' shure Oi've obeyed yer insthructions intirely. Oi've been a batin' the poor baste with a club ever since th' occasion of your last visit."—*Puck.*

Bound to Save His Life.—In a village of Ohio a short time since, a citizen was given morphia in mistake for quinine by a green boy in a drug store, and when it became known that his life was in danger the entire populace turned out, and all day fully one hundred men were engaged in running the patient up and down the street in the wildest manner, while women and children followed, adding greatly to the excitement. Before the day was over the man began fighting the crowd desperately, and there was a lively time generally.

Application of Plaster-of-Paris Case in Fractures of the Femur.—*The British Medical Journal* publishes an illustration showing an adaptation of Sayre's suspension apparatus, devised by Mr. E. Cotterell, with the object of treating fractures of the shaft of the femur in the adult, on the principle of an immediate encasement in plaster-of-Paris, a treatment which has been long well recognised as being applicable to children. The description given of it is as follows: It will be seen that the patient is partially suspended by the chest, and by a perineal band on the side of the injury, but not so completely but that he is able to lean some weight upon the sound limb. When the suspension is adjusted, the foot belonging to the broken limb is inserted into a boot attached to the platform on which he stands, by means of adjusting screws, which permit it (the boot) to be raised or lowered, or rotated inwards or outwards. The procedure of setting consists in making extension by means of these screws from the foot and ankle, and counter-extension by the perineal band from the crutch, until the limb comes to be of a proper length. A plaster case is then applied, from just above the foot upwards to the pelvis, being strengthened with strips of tin over the fracture and the groin. When this has set, the patient is removed from the suspending apparatus, laid down, and then the splint is completed over the foot and ankle, joining the part already put on. It is stated that this plaster-boot serves to maintain the necessary extension during the process of union; and while this is in progress, that is, for six or seven weeks, the patient is able to get about on crutches, wearing a four-inch clog on the foot of the sound side.

To Those Contemplating the Study of Medicine.—There are three doctors in a single London workhouse, that of Islington.

A Sensible Young One.—Vogel relates the following in his "Diseases of Children:" I once treated an American lady, who still suckled her son, who was *two and a half years old*, till one morning, when the strongly developed, robust child was called to be nursed, he very kindly replied: 'I thank you, dear mamma, the nursing is too tedious for me.'"

What Troubled Her.—A specialist in throat troubles, says *The Boston Traveller*, was called to treat a Boston lady, who manifested so much interest in his surgical instruments that he explained their uses to her. "This laryngoscope," said he "is fitted with small mirrors and an electric light; the interior of your throat will be seen by me as clearly as the exterior. You would be surprised to know how far down we can see with an instrument of this kind." The operation over, the lady appeared somewhat agitated. "Poor girl," said her sister, who was present, "it must have been very painful." "Oh, no: not that, not that," whispered the Boston lady, "but just as he fixed his instrument in place, I remembered that I had a hole in my stocking."

THE PATHOGENETIC HOG.—More people die in one year from trichinosis than in twenty years from hydrophobia. Yet the owners of hogs pay no tax, buy no muzzles, and have no hogs shot down.—*Milwaukee Sentinel.*

Punch's version of the time-honored couplet referring to the nasal appendages of the great Hebrew law-giver and his brother, seems very *apropos* at the present time:

Says Aaron to Moses,
"I've got trichinosis."
Says Moses to Aaron,
"It's the pork that you fare on."

EFFECT OF THE MAD DOG SCARE IN NEW JERSEY.—"Excuse me, sir," said a brakeman at Rahway, N. J., as a passenger was about to board the train, "but how far do you go?"

"New York."

"Take the next car back. This car is reserved for Paris passengers."

MEDICAL NEWS.

THE HOUSE OF JOHN HUNTER.—Dr. John J. Merriam writes to the *British Medical Journal* as follows: The house which John Hunter built in 1764 on his own freehold at Earl's Court, Kensington, together with the grounds, dens, etc., so little changed since his day, will soon be obliterated; and those members of the profession who care once again to visit the home of "the greatest man in the combined character of physiologist and surgeon that the whole annals of medicine can furnish" (Sir William Lawrence), should go to Earl's Court House without delay. When Frank Buckland visited this historical spot on June 23d, 1871, he wrote, "I almost imagined I was in the presence of the great man himself, so little is the place changed." A full account will be found in *Land and Water*, July 6th, 1871, and also in Buckland's *Log-book of a Fisherman and Zoologist*, 1875.

The memory of John Hunter will always be kept up by his immortal discoveries in surgery, physiology, and natural history, by his Museum at the Royal College of Surgeons, and by the window in the parish church of Kensington; but many will lament the demolition of that "Home" in which he worked so vigorously for nearly thirty years.

INTUBATION OF THE LARYNX.—Dr. F. E. Wraxham has published, in the *Chicago Medical and Surgical Journal*, a report of eleven cases of intubation in membranous croup, with 36 per cent. cured, a result which he says is "far better than we get from tracheotomy in Chicago. It must be remembered that seven of these cases, with two recoveries, were but three years of age or under, a period in which tracheotomy is rarely successful."

SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE.—At a meeting of this Society, held at the Academy of Medicine, in this city, January 14, the President, Dr. Frank H. Hamilton, presented a paper on the question, "What are the Legal Limitations of the Right of Private Judgment in Surgery? Does the Omission to Employ Antiseptics Justify an Action for Malpractice?" A Committee on Cremation, appointed at a previous meeting, made a report in which this method of disposing of the dead was strongly recommended, and asking the passage of a resolution requesting the Legislature to pass a bill in reference to the matter.

BELLEVUE HOSPITAL TRAINING SCHOOL FOR NURSES.—The graduating exercises of this training school were held January 14, when diplomas were awarded a class of 24. Mr. William E. Dodge presided, and Dr. E. L. Keyes made the address to the graduates. The annual report read shows that 244 graduates have left the school since the first class was graduated ten years ago. Of these only 5 have died, 22 are married, and 28 have responsible positions in hospitals as heads of training schools, matrons, and head nurses. Those who still continue to practice their profession in hospitals or private practice number 184. Four of the nurses are connected with St. Paul's Home for Trained Nurses in Rome, Italy, and their services have been much appreciated by the American travelers and residents there.

NEW YORK COUNTY MEDICAL ASSOCIATION.—The annual meeting of this Society was held at the Carnegie Laboratory, January 18, when the following officers were elected: President, Dr. Charles A. Leale; Vice-President, Dr. John Shrady; Recording Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Glover C. Arnold; Treasurer, Dr. E. S. F. Arnold; Members of the Executive Committee, Drs. John H. Hinton and C. S. Wood. Dr. L. J. McNamara read a paper on "The Etiology of Tumors," which will be published in full in the JOURNAL.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—Dr. T. W. Bennett, of Sullivan County, has been elected a member of the Executive Committee to take the place of Dr. Isaac Purdy, deceased, and Dr. William Young to fill a vacancy for Putnam County.

GEN. ALEXANDER SHALER.—At the trial of Gen. Shaler, President of the Board of Health, of this city, on a charge of bribery in selecting militia armory sites, the jury were unable to agree, and a new trial has been ordered for the next term of the Oyer and Terminer Court, which begins February 15.

NEW YORK POLYCLINIC.—The report of the Secretary at the Annual Meeting of the Directors and Faculty of the New York Polyclinic, held at the College Building on January 28, 1886, showed an attendance upon the clinics in the institution since the opening on November 7, 1882, of 709 physicians. Of this number 156 had taken out a general ticket which admits the holder to the lectures in all the departments taught at the school.

The ratio of attendance upon the various departments is shown in the following list of tickets sold since November, 1882, up to January 28, 1886:

Gynæcology, 461; Surgery, 412; Medicine, 313; Throat, Nose, and Ear, 300; Children, 273; Eye, 250; Skin, 234; Mind and Nervous System, 207; Physiological Chemistry, 173; Obstetrics, 163; Pathology (laboratory only recently opened), 15. Total, 2,801. The attendance for the present session is in excess of any previous term.

This is the pioneer institution of its kind in the country, and that the movement which it set on foot met a real want and has been fully appreciated by the profession in general is abundantly shown by the fact that similar schools of post-graduate instruction have now been established in nearly all the principal cities of America. The New York Polyclinic, with its able and hard-working corps of professors and instructors, is eminently deserving of the high degree of success which has crowned the labors of its founders and promotors.

NEW YORK PATHOLOGICAL SOCIETY.—The following officers have been elected for the ensuing year: John A. Wyeth, President; T. Mitchell Prudden, Vice-President; Wesley M. Carpenter, Secretary; John H. Hinton, Treasurer; John C. Peters, Editor; Frank Ferguson, Assistant Editor; John C. Peters, T. Mitchell Prudden, L. Emmet Holt, W. P. Northrup, L. Waldstein, Committee on Admissions and Ethics; H. Marion Sims, E. C. Wendt, Members of Committee on Publication.

A PHYSIOLOGIST'S WILL.—On the first page of the will of the late Professor Robin is the following request to the heirs: "If I die in Paris, let my autopsy be made at the earliest possible moment after my death, by one of the prosectors or assistants of the Ecole de Médecine, to be designated by the Dean. My brain and eyes should be removed and studied comparatively. The left eye was destroyed by a blow in 1835, and the optic nerves and convolutions should be studied with this fact in view."—*Med. News.*

DEATH OF A NOTED CENTENNARIAN.—On November 8, 1883, Mrs. A. M. Greene celebrated her one hundredth birthday at her country residence in Middletown, R. I. Mrs. Greene was in possession of all her mental faculties, and retained them, although she was feeble with age, until a few days before her death. On January 24, 1886, she died at the age of 102 years 2 months and 9 days. The deceased was a native of Newport, R. I., and was connected with families prominent in colonial times. Her husband was Nathaniel Greene, a son of Gen. Nathaniel Greene, Rhode Island's Revolutionary hero. Her father was Ethan Clark, a member of a family of Baptists prominent in Newport's early history. Her mother was Hannah Ward, a daughter of Samuel Ward, Colonial Governor of Rhode Island in 1762–3 and 1765–7. Gov. Ward was a delegate to the Colonial Congress, and but for his death from small-pox in Philadelphia in 1776, would have been delegate when the Declaration of Independence was signed. A good portion of Mrs. Greene's married life was spent in Georgia. The deceased had but two children, both sons, one of whom, Prof. George W. Greene, a noted Rhode Island historian and an intimate friend to the poet Longfellow, died in 1883. The other, Dr. Nathaniel Greene, was at her bedside when she died. Her husband died about 25 years ago. Just before her one hundredth birthday Mrs. Greene was thrown from her carriage, and she never fully recovered. She took a deep interest in literature, art, music, etc., and she was also interested in the affairs of the world. She was the oldest and most remarkable woman in Rhode Island.

THE ANNUAL REPORT OF DR. CYRUS EDSON, Chief of the Second Sanitary Division of this City, shows that there were condemned and destroyed in the last calendar year 799,410 pounds of meat and fish, 212,000 pounds of fruit, 37,905 pounds of canned goods, 72,700 pounds of candy, and large quantities of other kinds of unwholesome food.

PUNISHED FOR SELLING A DISEASED COW.—In the City Court of New Haven, on the 18th of January, a Connecticut farmer was fined $100 and sentenced to sixty days' imprisonment for selling a diseased cow to a firm of butchers of that city, who used the animal's flesh in the manufacture of sausages. Whether the butchers were prosecuted or not does not appear.

THE FEMALE PHYSICIANS PRACTISING IN PARIS are now eight in number. Two female medical students, Miss Plunkett and Miss Blanche Edwards, passed the last competitive examination for hospital positions with success.

A WORTHY AND MUNIFICENT GIFT.—Mrs. Wm. D. Sloane, a daughter of the late Mr. Vanderbilt, is, in connection with her husband, to erect and permanently endow a large and fully equipped free maternity hospital in connection with the College of Physicians and Surgeons of this city.

ALUMNI ASSOCIATION OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.—The annual dinner of the Association was held at Delmonico's, January 14, Prof. F. R. S. Drake presiding. Addresses were made in response to toasts by Prof. J. W. Wright, Gen. Horace Porter, the Rev. John Hall, D.D., Dr. Willis E. Ford, and others.

NEW YORK CHARITY ORGANIZATION SOCIETY.—The fifth annual meeting was held in Association Hall February 1st, where a report of the excellent work accomplished by the Society during the past year was made, and several addresses were made. It now has a membership of 1,084; 483 of which number had been received in 1885.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Dr. H. J. Garrigues has been elected professor of obstetrics, and will give practical courses at the Maternity Hospital and German Hospital. Dr. F. B. Carpenter has been elected an instructor in diseases of the skin, and Dr. Clarence C. Rice an instructor in diseases of the nose and throat.

At a meeting of the Clinical Society of this institution held January 25, "Hydrophobia and its Prevention" was discussed by the President, Dr. D. B. St. John Roosa, and Drs. W. A. Hammond, C. L. Dana, A. H. Smith, T. E. Satterthwaite, and F. R. Sturgis.

DEATH OF DR. ALFRED C. POST.—Dr. Alfred C. Post, Professor Emeritus of Surgery in the University Medical School, the Nestor of New York surgeons, died at his residence in this city, February 7th, in the 81st year of his age.

PHILADELPHIA HOSPITAL.—At the December meeting of the Guardians of the Poor, Dr. Philip Leidy, formerly Port Physician, was elected Chief of the Insane Department of the Philadelphia Hospital in place of Dr. D. D. Richardson, and Dr. Andrew Nebinger was elected Consultant in place of Dr. H. C. Wood. Drs. S. Weir Mitchell and C. K. Mills were also elected Consulting Physicians to the Insane Department. The attending staff of the Department for the Sick was re-elected and enlarged, Drs. William Osler and John H.

Musser being added to the Medical, Drs. Alexander W. Ransley and L. W. Steinbach to the Surgical, and Drs. Elliott Richardson and E. E. Montgomery to the Obstetrical.—*Medical Times.*

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA at its annual meeting elected Dr. C. H. A. Kleinschmidt President; Dr. John B. Hamilton and Dr. W. H. Taylor, Vice-Presidents; Dr. Thomas McArdle, Secretary; and Dr. C. W. Franzoni, Treasurer.

THE JOURNAL OF CUTANEOUS AND VENEREAL DISEASES.—Dr. Piffard has retired from his editorial connection with the *Journal of Cutaneous and Venereal Diseases,* and the journal will be continued under the sole editorial charge of Dr. P. A. Morrow. This is the only publication in the English language devoted to skin and venereal diseases, and during the three years of its existence it has won for itself a high reputation for scientific excellence as well as practical utility. In addition to presenting all that is new and valuable in these special departments, the colored lithographs and wood engravings with which the original articles are illustrated are worth more than the price of subscription. Judging from the handsome appearance of the January number, which is enriched by an admirable chromo-lithograph and a number of well-executed woodcuts, and the eminently practical character of its contents, this high standard will be maintained in the future.

COST OF SMALL-POX TO TENNESSEE.—From replies to an inquiry sent by the State Board of Health to the health officers of the several locations in which small-pox appeared in the State during the past five years, it was ascertained that the cost had been nearly $60,000.—*Medical and Surgical Reporter.*

DEATH OF DR. HENRY W. FAISON.—The medical profession of North Carolina has lost one of its oldest and most honored members in the death of Dr. Henry W. Faison, of Faison. He died December 23d. Endowed with an indomitable energy, and possessed originally of a constitution conspicuous for its vigor and strength, he made the mistake of overtaxing himself physically, with the result that is inevitable—death from exhaustion of vitality. He was sixty-three years old at the time of his death, having been born at Faison, Duplin County, June 30, 1823. He was graduated in medicine from the University of Pennsylvania in 1844, and his life, from the time of his graduation till its close, was spent in the active practice of his profession at his birth-place. Professionally Dr. Faison was the master-mind in his community in his day, and for years to come it will bear the impress of his individuality. Peculiar in an aversion to places of public honor or emolument, he never held an office in the State Society of Medicine, though repeatedly solicited to do so, but the "Transactions" have upon them few names which appear oftener or with more influence than did his, and the absence of no member will be more keenly felt at the meeting in May next.—*North Carolina Medical Journal.*

DEATH OF DR. JENIFER GARNETT.—Dr. Garnett died at his home in Richmond, Va., December 2, 1885, after suffering from cancer of the stomach since last March. He was a graduate of the Medical College of Virginia, and was about 40 years of age.

DEATH OF DR. MCALLISTER.—Dr. W. T. McAllister, a prominent practitioner of Marion, Ala., died of phthisis, January 13, 1886, aged fifty-six years and eight months.

DEATH OF DR. CHARLES TURPIN.—Dr. Charles Turpin died in New Orleans on Friday, January 29th, after an illness of only four days. On the Saturday previous he read before the New Orleans Medical and Surgical Society a paper on diphtheria, which was of great interest and value. Dr. Turpin was a native of New Orleans, where he was born 70 years ago. His family connections were with the Slidells, Beauregards, Chastants, and Deslondes. He received his education in the College St. Louis, Paris, and having graduated in 1843 returned to New Orleans. Since that time he has practiced his profession and attained an eminent place among the practitioners of that city. He also won distinction in the field of belles-lettres.

DEATH OF DR. JAMES H. WHITTEMORE.—Dr. James H. Whittemore, for the past nine years resident superintendent of the Massachusetts General Hospital, died in Boston, January 6th, at the age of 46.

A MARTYR TO HIS WORK.—Dr. Joseph W. Riley died January 14th, at his home in West Troy, in the 26th year of his age, of typhus fever, contracted while attending the sick during the recent severe epidemic of that disease in the Albany Penitentiary, of which he had been the resident physician for about a year.

EDITORIALS.

THE REPRESSION OF CONTAGIOUS OPHTHALMIA.—The report made to the New York Academy of Medicine last month by the committee appointed in June last to make an investigation of the prevalence of communicable eye diseases in the asylums and residential schools of this city and vicinity, and devise measures for the suppression of the evil, indicates even a more urgent need of a radical reform in the hygienic management of these institutions than was shown by the statements made at that time by Dr. Derby, which led to the appointment of the committee.

Of the 50 asylums and residential schools in the city, the committee, it was reported by the chairman, Dr. Derby, had made examinations of many of the most important. These examinations were conducted by sanitary inspectors of the Health Board, accompanied in each case by experts in ophthalmology, and the following extract from the report will show in a general way the condition of affairs that was found. "The committee desire, in substance, to say that a worse state of things exists to-day in most of the asylums visited than the preliminary report read before the Academy in June last indicated. Reports received from various reputable physicians show that in nearly all the asylums of the city children are admitted without due examination of their physical condition, especially as to the condition of their eyes. The reports show that the physicians who have charge of these asylums make no systematic inspection of either the buildings or their inmates; that no system at all adequate of quarantine is practiced; that many of the asylums are grossly overcrowded. Besides all this, very grave defects in plumbing have been found. To protect the children cared for in the asylums and residential schools of this State the committee is satisfied that legislation is needed."

The results of the investigation of three of the institutions, taken as samples, were as follows: In the Deborah Orphan Asylum, in East Broadway, defective plumbing and bad ventilation were found, and the Health Inspector was of the opinion that the buildings assigned to boys were unfit for the purposes to which they are put. Of the 226 children within its walls, 33 boys and 17 girls were found to be suffering from granular ophthalmia. In the Roman Catholic Orphan Asylum at Fifth Avenue and Fifty-first Street, were housed 390 boys, 34 Sisters and 17 assistants. Of the children 246 had some trouble with their eyes. At St. Joseph's Asylum, Eighty-ninth Street and Avenue A, children are admitted without a precautionary medical examination. The committee caused 521 children to be examined, and it was ascertained that 157 boys and 147 girls had diseased eyes. In all these institutions the amount of air space allowed in the dormitories to each child was found to be inadequate.

The report was supplemented with the draft of an " Act for the better preservation of the health of the children in institutions," which had been prepared for the committee by Elbridge T. Gerry, President of the Society for the Prevention of Cruelty to Children. The proposed act provides that every incorporated institution in this State receiving or caring for children (excepting hospitals) shall have attached thereto a regular physician in good professional standing. Such physician shall carefully examine each child applying for admission to the institution, and shall give a certificate in writing stating whether or not the applicant is suffering from any contagious or infectious disease, especially of the eyes or skin. No child suffering from any contagious or infectious disease shall be allowed to enter or remain in any institution in contact with children not so affected, but shall be immediately isolated or placed in a proper room or infirmary, which shall be provided for that purpose. It is made the duty of the physician to give notice in writing to the officers of the institutions whenever any dormitory therein is so overcrowded that there shall be afforded less than 600 cubic feet of air to each occupant.

It is needless to say that this act was heartily approved and recommended to the Legislature by the Academy; and since then it has also been unanimously indorsed by the Medical Society of the County of New York. The committee, aided by the representatives of the State Board of Charities, the State Charities Aid Association, the Society for the Prevention of Cruelty to Children, and the New York Association for Improving the Condition of the Poor, who have hitherto coöperated with it, will spare no pains to present the facts which imperatively demand the passage of a law of this kind in the most forcible manner, and it is sincerely to be hoped that this earnest appeal on behalf of thousands of sufferers, whose future usefulness and happiness depend upon its enactment, will not be made in vain. There can be little doubt that very much the same state of affairs which has been found in the asylums of this city exists in similar institutions all over the State, as well as throughout the land, and the passage of this bill would indeed mark an era in the progress of sanitary reform.

THE ABUSE OF MEDICAL CHARITIES.—At a meeting recently held in Liverpool, over which Sir W. B. Forwood presided, and which was attended by a large number of eminent medical men, and other prominent citizens, the chairman made a statement, signed by one hundred of the medical profession of the city, to the effect that last year no less than 253,000 persons received gratuitous treatment at 18 local charities, in addition to 40,000 treated at the parish infirmaries, and 4,500 by medical men at their private residences; and that it was a great abuse of the Liverpool hospitals. He further stated that the Manchester Provident Society, in 1875, in the first year of its operations, found no less than 42 per cent. were able to pay for the medical relief they obtained, which now, under their operations, were reduced to only 14 per cent. The nine medical provident societies in Manchester, with 19,000 paying members, and which paid the medical men connected with them £2,000 annually, were self-supporting, and had done much to relieve the hospitals and inculcate habits of thrift amongst the working classes.

The relief which was proposed by the gentlemen signing the paper was the formation of a well-organized and properly-conducted medical association, which they thought would be a great benefit to the working classes, and to those engaged in the promotion of self-help and thrift.

Canon Lefroy moved a resolution in favor of the establishment of such a provident association, which was supported by Mr. Reginald Harrison, Dr. Hamilton, and others, and an executive committee was afterwards appointed. Commenting on this movement, the *British Medical Journal* says: "It is almost indispensable for the success of a large select system of provident dispensaries that the out-patient department of the medical charities should guard their doors with more intelligent exactness than they do at present. The lax administration of the outdoor department of hospitals is a serious obstacle to medical providence on the part of the working classes; and, until it is well understood that a reorganization of the lax system of administering medical relief at hospitals is an indispensable corollary of medical providence among the industrial population, the provident movement is seriously handicapped."

Expressing the hope that the Liverpool Association may be at least as successful as those in Manchester, and that it may avoid the rocks on which similar enterprises have foundered, it goes on to say: "At any rate, good results are likely to follow from an intelligent co-operation of the leading members of the medical profession with social workers, such as Sir. W. B. Forwood, in the attempt to substitute habits of providence for that evil custom of postponing provision for the day of sickness, and relying upon charity and upon the generosity of the medical profession, which for many millions of our population has taken medical aid out of the category of things for which the million think it necessary to make any sort of payment."

The abuse of medical charities is at the present time a crying evil in New York and most other large cities of the United States, and, although the attention of the profession and the public has a number of times been prominently directed to the matter, little or nothing has ever been accomplished here in the way of its suppression. An extended system of provident dispensaries, such as has been found successful in Manchester and other English cities, has never been given a trial; though in London the results from this plan appear to have been disappointing, owing largely, it is said, to the want of harmony among the leaders of the public charitable institutions, and the difficulty of covering with sufficient rapidity the whole area to be dealt with.

The most promising chance of relief for this abuse which has as yet been afforded in this city, however, is to be looked for in the results of the meeting of the profession and the managers of the principal charitable medical institutions which was held at the Academy of Medicine in December last, under the auspices of the Charity Organization Society. Through the systematic operations of that admirable body these various institutions will be enabled to find out with certainity which of their patients are deserving of gratuitous treatment, and if they can be induced to unite in a movement to rigidly exclude all who are able to pay for medical advice, there would seem to be no sufficient reason why a system of provident medical associations can not be carried out with success among those of the working-classes upon whom the ordinary fees for medical attendance are apt to bear somewhat heavily.

RENAL ADEQUACY IN CHRONIC BRIGHT'S DISEASE.—In the very able paper read by Professor Flint at the November meeting of the New York County Medical Association, on the elements of prognosis in Bright's disease, which is republished in the present issue of the JOURNAL, probably the point of greatest practical importance is his insistence upon the necessity for determining, in any given case, whether the kidneys are adequate for a fair performance of their functions under favorable conditions. It is all the more important, and it is on this account that special reference is made to the matter in this place, because there can be no question that it is one which is not sufficiently appreciated by the great mass of practitioners. Dr. Flint says he has frequently been struck with the fact that in examinations of the urine the specific gravity has not been taken into account; and this is, no doubt, the experience of many other consulting physicians also. Albumen and casts in the urine, he says, show that the kidneys are doing what healthy organs ought not to do; but, the more important inquiry is, Are they doing what healthy organs ought to do? The kidneys may eliminate in abundance excrementious products, although albumen and casts are present abundantly in the urine; and, *per contra*, the elimination of these products may be more or less inadequate, although the urine may contain little or no albumen, and casts are wanting. Very pertinently he asks, "Is it an injustice to medical practitioners to say that examinations of the urine often have regard only to the inquiry as to the existence of Bright's disease, and to the form of the disease which exists, overlooking the importance of ascertaining the sufficiency of excrementitious elimination? Are not examinations often limited to specimens consisting of a few ounces of urine, the quantity passed in a given time being imperfectly known and, perhaps, not made an object of inquiry?" He then adds, very truly, that while the amount of albumen excreted, and the number and variety of tube-casts present, are important with reference to the existence and the form of Bright's disease, it is generally of much more importance to obtain information respecting the adequacy of the renal functions; and that it is certainly not too strong an assertion, that to be satisfied with the information that the quantity of urine is normal, without knowledge of its density, in Bright's disease, is a culpable neglect.

Now, suppose the fact of renal adequacy to be established. There is one practical inference as regards the question of treatment which Dr. Flint emphasizes with much force, and the importance of which can hardly be overrated. It is, indeed, as he believes, an error in practice too often committed, to employ diuretics, hydragogues, and sudorifics in cases of Bright's disease when these are not indicated. The indication for these agents being wanting under these circumstances, they are, on account of their disturbing and debilitating effects, clearly contra-indicated.

THE PROTECTION AFFORDED BY VACCINATION.—The editor of this journal was not a little astonished a short time since by the receipt of a note of inquiry from a physician of Chicago, asking his opinion in regard to the efficacy of vaccination, and whether he advocated its use. The writer stated that he was engaged in a systematic effort to ascertain the position of the principal medical journals of the country upon the subject. Such an inquiry as this at the present stage of the world's progress certainly seems somewhat extraordinary, and especially in view of the results shown by the recent epidemic of small-pox at Montreal, where the enormous death-rate was the direct consequence of the bigoted opposition to vaccination. The proof of the protective power of vaccination is so overwhelming that any new facts can scarcely add to the strength of this; but the strongest possible corroborative evidence is afforded by the report of the German Vaccination Commission, which was recently presented to the Reichstag, and some of the most striking facts of which are given in the following synopsis:

> In 1874 a law making revaccination compulsory throughout Germany at the age of 12 years came into force. From 1816 to 1870 the average annual mortality per 100,000 of population in Germany was from 15 to 25 in the intervals between occasional epidemics, rising in those epidemics for one or two years to from 40 to 60. During the great epidemic that occurred in connection with the Franco-Prussian war the mortality rose to 243 and 262 in the years 1871 and 1872 respectively. The effect of the new law first became apparent in 1875. From that year to 1882 the mortality per 100,000 did not reach 4 in any year, and the average was less than 2 1-2. The record in Austria previous to 1871 had closely resembled that of Germany, and that country had also suffered severely from the epidemic accompanying the war, but the average annual mortality there for the years 1875 to 1881, both inclusive, was 58, ranging from 39 to 82. There was no compulsory vaccination law in force in Austria. A comparison between the small-pox mortality records of London and Berlin reveals a difference almost as great. The average annual mortality in London for the ten years from 1874 to 1883, both inclusive, was 23, while in Berlin for the same period, under a compulsory law, it was 1 3-10. Berlin suffered more severely than London in the epidemic of 1871-2, but for the last seven years of the decade just mentioned her average annual mortality was less than 6-10, while London's was 29 6-10. Similar comparisons with reference to other cities were made by the commission with similar results. The effect of the law was most marked in the army. The average annual number of deaths from small-pox per 100,000 soldiers in the French Army for the decade beginning with 1872 was 13, in the Austrian Army it was 37, and in the British Army it was 5. But in the Germany Army there was not a single death from small-pox from 1874, when the law went into force, up to 1883, the time covered by the commission's inquiry.

MEDICAL ADVERTISING IN THE DAILY PAPERS.—One scarcely picks up a newspaper at the present time without reading a glowing account of some startling operation or brilliant medical discovery by some of the more enterprising members of the profession in this city, which would make Sir Astley Cooper and John Hunter hide their diminished heads in shame. It is to be presumed that these eloquent notices in the secular press supply "a want long felt," and our fortunate confrères are, no doubt, to be heartily congratulated on thus having greatness thrust upon them. There are, however, still other plans which they might adopt for attracting public attention, such as that pursued by a member of the Dutchess County Medical Society, whom an effort was recently unsuccessfully made to expel for inserting in the newspapers an advertisement accompanied by more or less graphic representations of an eye and an ear, in the treatment of the diseases of which organs he wished it to be known that he possessed special skill. From the publishers of Jayne's family almanac, and other similar scientific works, they could, no doubt, for a moderate consideration, secure a pleasing assortment of such anatomical and pathological cuts as could not fail to attract notice, and fill the observer with wonder and awe. Or, again, — and this method would unquestionably result in even larger returns in the way of fame and emolument—they could follow the illustrious example of "Dr." J. S. Lighthall, the medicine fakir, more familiarly known as the "Diamond King," who has just come to an untimely end, from small-pox, at San Antonio, Texas. The following account of his remarkable career, taken from a biographical sketch which appeared at the time of his death last month, is respectfully commended to their careful attention.

> Six years ago Lighthall, then only 24 years old, took the rôle of a "cure all" and sold what he called Indian oil on the street corners. He made money, and soon employed a brass band of eight picked-up pieces to attract a crowd. He added to his stock a cure for consumption, tooth powder, and blood purifier. He had a slight knowledge of dentistry, and pulled teeth free, the work being done very rapidly. The band played during the operation to drown the yelling of the patient. Two years ago the party "worked" Nashville, Tenn., there be-

ing eight men and two women in the band, among whom was George Roberts, of Elmira, a great favorite with the doctor. From Nashville the party drifted southward, when Lighthall discovered that other parties were selling Indian oil. He then changed the name to Spanish oil and increased his company to 61 persons by taking in several Spaniards, Indians, and Mexicans, and thereafter showed in a 100 foot round tent. Concerts were given, while Lighthall was kept busy passing out medicine, and his assistant fakirs sold it among the audience. Big crowds were attracted everywhere, and money rolled in very fast.

CHLOROFORMING DURING SLEEP.—An apparently trustworthy additional confirmation of the fact, which can scarcely be longer successfully disputed, that it is possible, under favorable circumstances, to bring a sleeping person under the influence of chloroform without awaking him, is furnished in a case which occurred at Tarrytown-on-the-Hudson on the night of January 31. A gentleman from this city was spending Sunday with some friends at that place, and in the evening he retired quite early on account of a severe headache. When the rest of the family went up-stairs, about eleven o'clock, it was found that the bed-chambers had been robbed, although this gentleman had been sleeping in one of them all the time. There was, however, a distinct odor of chloroform in the apartment which he occupied, and there can be little doubt that a successful inhalation of the drug had been practiced upon him by the thieves while he slept. When he was waked he found that his headache had completely disappeared, but the cure by chloroform was rather a costly one, as a considerable amount of property was missing from the rooms.

THE DELAWARE STATE MEDICAL SOCIETY.—Although a very small State geographically, Delaware has always had its full share of distinguished men in various departments of culture, and to-day she is proud to number among her citizens the Secretary of State of the National Government, and the venerable presiding Bishop of the Protestant Episcopal Church of America. In the scholarly paper by Dr. Bush, of Wilmington, which is published in the present issue of the JOURNAL will be found a most attractive account of the Medical Society of the State, which, next to that of Massachusetts, is the oldest in the country, and of its founders, all of whom were men of sterling worth, while several were of unusual ability and attained to the highest eminence. These sketches of the early physicians of Delaware, and of the scenes of the war of the Revolution, and that of 1812, in which some of them bore a conspicuous part, are of the greatest possible interest, and the whole article will undoubtedly form a valuable contribution to the medical history of the United States.

LECTURES BY PROFESSOR SOUCHON.—In the March number of the JOURNAL will be commenced a series of three lectures by Dr. Edward Souchon, Professor of Anatomy and Clinical Surgery in the Tulane University of Louisana, devoted to the structure respectively of the liver, the kidneys, and the lungs. These will be found to be models of clearness and conciseness ; and the extreme simplicity which characterizes them is evidently the result of much study and care on the part of their distinguished author, who displays marked originality in his manner of description.

AN OFFER TO NEW SUBSCRIBERS.—From now until June next, the Publisher offers a year's subscription to GAILLARD'S MEDICAL JOURNAL, and to *Daniels's Texas Journal*, the price of which is $2.00 per annum, for $5.50. The latter is an able and lively monthly, which has had an exceptional success since it was started in July last, and a number of extracts from its well-filled pages have already appeared in this Journal.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLII. NEW YORK, MARCH, 1886. No. 3.

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ORIGINAL ARTICLES.

ARTICLE I.

THE CASE OF EX-GOVERNOR THOMAS A. HENDRICKS, LATE VICE-PRESIDENT OF THE UNITED STATES. By John E. Lockridge M.D., Indianapolis, Ind.

In the latter part of 1882 and beginning of 1883, and for a year or more afterward, the case of Mr. Hendricks attracted much attention, both its pathology and diagnosis being reviewed and criticised, not only in the columns of the medical periodicals of the day, but by the secular press as well. Although these comments were mostly good-natured, and at times even jocular, yet they almost invariably reflected on the soundness of the judgment and professional sagacity of the physicians in attendance on the case.

Having been urged by medical friends, as well as by several medical journals, to prepare a report of this case for the sake of science and the profession, I have now concluded to make as correct a report as I possibly can, drawing largely, however, on memory. From a merely political standpoint the way seems now to be open, since the sudden and untimely death of the lamented Hendricks, as well as its cause and his tendencies and predispositions, may throw some light on the nature of the attack in question; and, moreover, any discussion of the latter cannot now, of course, handicap his usefulness, forestall the political aims and aspirations of his friends and admirers, or afford encouragement to the gloomy and disastrous prognostications of his political opponents in case of his preferment to any exalted position in affairs to which his great worth, ability, and popularity might elevate him.

About 9 A.M., on the 23d day of October, 1882, Gov. Hendricks sent for me. I found him sitting in his arm-chair, complaining a good deal of pain and burning in his left foot, which was resting on the floor with some simple dressing on it. I requested him to place it on a cushion upon a chair in front of him and to keep it in that position whenever sitting; this gave very much relief at once. On the dorsal surface of the middle toe, just below its junction with the metatarsus, was a blister about the size of a half dime silver coin, which appeared as if it had been caused by friction from a shoe; and from this focus redness, swelling, burning, itching, and pain, with a peculiar boggy state, extended over all of the toes and up to the instep, though there was no deep-seated pain. There was a slight chilly sensation at times, a slight fever (99°), tongue slightly coated, very little constitutional disturbance, and appetite fair; bowels slow. Patient's age was 63 years, weight about 170 or 175 pounds, and his general health had been good for several years previous to this attack, which came on in the midst of seemingly robust health. During this autumn there was a spirited campaign in the State for State officers, and Mr. Hendricks had been actively engaged in making speeches almost daily, and often twice a day. The day before I was called he had made a long address in the northern part of the State, during the delivery of which, and in fact all day, his foot pained him very much, as if from a tight or ill-fitting shoe. It was so painful that he determined to come home for the night and seek relief.

Further on in the case, after it had become more serious, his history was more carefully inquired into, and it was ascertained that the Governor had had quite a sharp attack of partial paralysis at Hot Springs, in Arkansas, two or three years before. He was engaged in a social game at cards with some friends, and he became conscious that he had lost the power of retaining the cards in his right hand; in fact, the cards dropped from his grasp, and it was found that his right arm was almost powerless. This was followed for a day or two with severe pain in the head and other unpleasant symptoms, which gradually passed off, leaving his general health as good or better than before, apparently, but with a very perceptible lack of strength in his right hand to the day of his death, or at least until after the attack under consideration; which he showed to me by grasping my hand successively with his right and left one. It was ascertained also that his father died, at the age of 73, with unmistakable *senile gangrene* of the foot; and that the only child that the Governor ever had, an active and bright boy four years old, and in the midst of perfect health and vivacity, came to his mother one day complaining of a severe pain in his toe, which, in spite of all kinds of applications for its relief, soon became excruciating; the child soon began to complain of his head also, fell into a deep stupor from which he was never aroused, and in twenty-seven hours from the first symptom died. This completes the history, so far, at least, as it bears on the attack in question.

My first visit was on Wednesday, and he told me that he *must* attend a political meeting and speak on the following Friday at some city 100 miles or more from Indianapolis. I told him that such a thing was out of the question, that even in case the erysipelas became no more deep-seated and serious, or even promptly subsided, which I hoped it would do in a few days, yet it would be the worst possible thing to do to stand on his foot for an hour or two and speak; or, for that matter, even to walk upon it or put it to the ground in so short a time as he insisted upon.

In the way of treatment I suggested some seltzer aperient that he was in the habit of taking, and advised him to take twelve or fifteen grains of quinia during the next twenty-four hours; I also applied a solution of nitrate of silver over the borders of the disease and sound skin around the ankle, as well as down over the blister and severest portion of inflamed surface of the foot; and to allay the itching and burning, I ordered a warm opium and lead wash to be constantly applied over the entire inflamed surface.

Oct. 24. Patient much better; erysipelas not beyond the barrier established on yesterday, and subsiding everywhere; less swelling and pain; very little burning and itching; no rigors or fever; appetite better. Quinia continued, and soothing wash to be applied occasionally.

Oct. 25 (8 A. M.). The sore from the little blister seems to be nearly healed, and pain, swelling, redness, burning, and itching have nearly all subsided. There is but little now to call attention to the foot, and the patient chafes at the idea and advice that he ought not to think of walking on the foot or going out before the 28th, at the least; and this disquietude is much increased by scores of invitations and appeals from points all over the State for him to come and address the people and help in the campaign, while many appointments had already been canceled, and others of special concern and interest to himself were fast approaching. In such a state of affairs it is more than likely that all parties directly interested in the case somewhat relaxed their caution and vigilance, and perhaps the member was put to some use, since it did not seem necessary to nurse it any longer on the cushion and chair, as at the outset of the treatment. Be this as it may, towards evening of this day a deep-seated pain was complained of in the affected foot, and the patient spoke of it as being rheumatic, for he had had several painful attacks of sciatica, or something of the kind. The pain was not very severe, but yet disquieting and annoying, and there was no return of the redness or swelling in the surface lately inflamed.

Oct. 26. Patient complained very little of deep-seated pain in the forenoon, but towards evening it returned even more severely than yesterday, and there was a slight return of the redness and swelling in the whole foot, and especially in the middle toe; also a little fever. Quinia increased, and tincture chloride iron combined with it, and foot repeatedly bathed in hot solution of bi-carbonate of soda, and dressed in cotton wool.

Oct. 27. In the forenoon there was a marked remission in all of the symptoms, but in the afternoon and evening the pain, swelling, fever, and constitutional disturbance were greatly increased, and had become quite insufferable. The entire front portion of the foot up to the instep was intensely red, and the middle toe was assuming a livid appearance; appetite failing. Quinia and iron continued, and salicylate of soda also prescribed, with opium to relieve the pain. Locally, various soothing applications were resorted to, but the hot soda baths afforded the most relief, with the dressing of cotton wool.

Oct. 28. Dr. W. C. Thompson met me in consultation, and was associated with me daily throughout the case. In the forenoon there was a well-marked remission in all the symptoms, but in the afternoon and night the almost agonizing pain returned, with some fever, total loss of appetite, and so on; the vital powers of the patient fast failing. Locally, there was perhaps no increase in the swelling, nor was there at any time much tension, as suggesting a resort to deep incisions, but rather bogginess, nearly all of the toes of the deepest red, and middle one assuming a more livid aspect. Quinia and iron continued, and two grains of pulv. opium had now to be given every four hours to secure the slightest relief. Locally, the immersion of the foot in water as hot as could be borne was tried, but gave no sort of relief, and much increase in the pain whilst applied; poultices of flaxseed meal seemed to be more soothing, and were now kept up. All the nourishment possible, such as beef tea, egg-nog, and all sorts of dietetic preparations were administered.

Oct. 30. Prof. Theophilos Parvin, M.D., now of Philadelphia, joined us in consultation, and saw the case at intervals of a few days until convalescence was fully established. For the last two days the pain in the foot has been constant, except when the patient was profoundly under the influence of opium, which has been repeated *pro re nata*. Prostration has been very great, with total loss of appetite; the three middle toes are now assuming a livid appearance, with gangrene inevitable in the middle or third one. Frequent and careful examinations of the popliteal, posterior tibial, and dorsal is pedis arteries failed to elicit any abnormality in either of them, and the heart's structure and action seemed to be normal as to volume, valvular adaptation, and rhythmical attuning; but there was the history in health of a certain sluggishness of the circulation in the extremities, an habitual coldness and at times numbness of the hands and feet, while on the present examination the arteries referred to above *seemed* scarcely to have the expansive force or tonicity that one would expect to meet with where there was considerable vascular excitement. However, at the time there was the most anxiety about the condition of these vessels the patient was very little reduced in adipose tissue and muscular volume, and hence an exact knowledge of the true state of these deep-lying channels was very hard to arrive at. Quinia, iron, and tinct. of nux vomica were continued, together with beef tea, egg-nog, and the most supporting diet generally; and locally, flaxseed meal poultices, incorporated with which were pulv. cinchona and charcoal.

Nov. 6. Prof. D. W. Yandell, M. D., of Louisville, Ky., saw the case at about 10 P. M. for the first and only time. For three or four days after the last report the patient was kept pretty fully under the influence of opium, on account of the constant severity of the pain, especially in the middle toe; but for a day or two just past less of the anodyne has been required, and consequently the patient has now become brighter, but looks very haggard and is becoming a good deal emaciated, being much prostrated, with total loss of appetite, feeble pulse, and great perspiration. The middle toe is now a gangrenous mass, with the possible exception of a narrow strip along the plantar surface; it is somewhat shriveled, cuticle falling off, black and offensive. The second and fourth toes are on the very borderland of mortification, very dark, but with some remaining sensation and other signs of small vitality, and the remaining ones dark red and sensitive; the inflammation, at no time extending beyond the instep, gradually shading off. It seemed to the writer to be a matter of some importance at the time that whilst dressing the foot at about 3 P. M. of this date some pus appeared on the surface, just over the distal extremity of the metatarsal bone of the middle toe, and just above the apparent limit of the gangrene. On very slight pressure about one drachm of apparently laudable pus flowed out from some deep source; the aperture afterward seemed to slough out until one's forefinger could be inserted to the bone. It gave exit to pus and remained open until all the sloughs had been thrown off, and nearly until the case was discharged. The deep-seated pain has now pretty nearly ceased, and the anodyne seems to be no longer required; but it is feared and expected that the gangrene will very soon invade the contiguous toes, if they be not already affected. Iron, quinia, and nux vomica were continued, together with the most generous diet. Locally, the wound to be carefully cleansed twice a day and dressed with carbolized cosmoline or lint, and over all cotton wool to maintain the temperature.

Dec. 1. The past three weeks have been fraught with anxiety and doubt, for whilst our patient has undoubtedly been gaining generally, there has been much solicitude lest the adjoining toes were about to fall before the dread gangrene. The appetite has gradually improved, until now it is quite satisfactory. He is eating and enjoying oysters, birds, and the like; color better, and strength increasing; spirits good, and very hopeful. Locally, the second and fourth toes have been at times since last report dark and livid, on the very threshold of gangrene apparently, and again showing more signs of vitality, brighter red and more sensitive, the color shading off to the first and fifth and upward to the instep. The middle one has been sloughing and offensive, first the nail and cuticle all over the dorsal surface, the tip, and down the sides, limited above by the aperture over lower end of metatarsal bone, and then the areolar tissue and muscles, falling off; leaving the dead bones exposed for most of their extent.

It was now ascertained that the plantar surface, supplied by the digital arteries from the plantar arch, had resisted the gangrene, and was limited on either side by an imperfect line of demarkation; and in consequence of the digit having lost the support of the extensor muscles, it was flexing sharply on the plantar plane, and again becoming sore and painful, and threatening gangrene from a new cause—namely, deflection and obstruction of its arterial conduits; and even if this remnant should weather the storm and form the basis of a new member, pointing toward the ground as it would, it would prove to be a constant impediment to locomotion. Therefore the whole digit must either be removed with the knife, or it must be held up and trained in line with its fellows by some kind of a contrivance. The use of the knife was unanimously discouraged, and I succeeded in getting it in line with the others by passing a long strip of lint beneath it and over its neighbors on either side, and under the next and so on; thus elevating it and easily keeping it in position by carefully replacing the lint after each dressing, until convalescence was fully established and a new but somewhat abbreviated member was reproduced.

Treatment since last report has consisted in iron, quinia, nux vomica, and a generous diet, of which an abundance has been taken and digested, most of the time with relish. Locally, cleanliness was carefully looked to, and at times a solution of carbolic acid was applied for several days, and again carbolized cosmoline or lint. Oxide of zinc suspended in sweet oil seemed to give a good deal of comfort, as well as to allay inflammation, and was pretty constantly applied over the whole diseased surface; with cotton wool over all to maintain the temperature.

Jan. 5, 1883. Since last report the patient has been progressively but slowly improving; the appetite has been in the main entirely satisfactory. At times food was not relished for a day or two, doubtless from over-indulgence; all of the systemic functions have been normal; color and strength are returning, and patient is gaining in weight; spirits buoyant. He has left his bed, and sits in his chair, or walks about the room with the aid of a crutch; improvement in the foot has doubtless also been progressive, although at times, for a day or two, the second and fourth toes seemed as though they were about to take on gangrene. At this date nearly all the redness and swelling have left the foot; the aperture over the lower end of the third metartasal bone has cicatrized entirely; the corresponding toe has been measurably restored or repaired, about two-thirds the natural size, with a soft and imperfect nail. The new tissues seemed to rise up from the edges and tip of the plantar remnant, as well as, doubtless, from the upper or osseous surface, together with new phalanges, since the old bones, dry and bare, constitute the dorsal surface, and conceal from view what is and has been going on beneath them. The new toe now maintains its position in line with the others without the supporting strip of lint, whether from the support of reproduced bones or simply by the soft parts it is impossible to determine, as there is yet too much tenderness to bear handling and investigation. Treatment has been the same since last report. Locally, nothing but cleansing, anointing with zinc and olive oil, dressing of carbolized cosmoline, and cotton wool over all. Ceased regular visits.

Jan. 10. Recalled with Dr. Thompson. The Governor had a severe chill the night before, followed by a sharp attack of pleuritis of his left side; severe stitch in the side and ordinary inspiration, and coughing very painful, considerable fever, and the patient's appearance vastly changed for the worse; friction sound prominent over a circumscribed portion of left side. Pleurisy was arrested in the first stage by hypodermic injections of morphia, dry cupping, mustard cataplasms, and, later on, a flying blister, quinia, and Dover's powder.

Jan. 12.—Patient dressed and sitting up in his arm-chair, all pain and uneasiness having left his side. No fever,and appetite returning; but he looks to be very much wasted by so short an attack. Ordered to continue quinia for a few days. Discharged.

March 30.—The Governor sent for me to consult with me about the *sequestra* of bones that yet cover most of the dorsal surface of the new toe, as to whether they should be forcibly removed or allowed to separate of themselves, inasmuch as the mass was now somewhat loose and was beginning to produce some irritation. He had made a trip to Florida and New York since last report, since which time I had not seen him. He is now fully restored as to general health, his color is excellent, appetite first-rate, and strength normal. He has been wearing a soft and roomy shoe made for the purpose, and has been walking about on the lame foot at will. On removing his sock I noticed a little blood on the toe around the old bones, and some slight irritation from the same, which were evidently ready to drop off; but on seizing the mass with the forceps I found that it gave him too much pain to remove it then. The toe was perfectly in line with its fellows without any artificial support, but I could not then ascertain whether or not there were any new phalanges, and I had no subsequent opportunity to examine it. I advised him to let it alone and in a few days nature would throw off this foreign body, and all would be well. Two days afterward I met him on the street, and with a pleasant smile he informed me that on that morning whilst dressing the mass had fallen off. Thus ended my experience with the case, except on occasions of meeting him for a year or more afterward, and even after he had made a trip to Europe, when he would casually and pleasantly remark that "there is no more sore toe now." I am sure that it never gave him the slightest trouble after this.

In the foregoing report I have attempted to give at least a correct and truthful history of this much talked of case from such notes and *data* as I have in my possession; drawing very much from memory, which, I may say, is very vivid as to the leading features and incidents in the case. I have not attempted to give a daily, or for that matter even a weekly *résumé* of the course and conduct of the case, for such I deem would only be tedious and monotonous to such of my readers as may take any interest at all in the case. During its progress, and long after its favorable termination, the public press, both medical and secular, teemed with comments on its conduct; most of them adverse and tending to seriously reflect on the professional sagacity of the medical gentlemen in attendance, all of whom, with the exception of the writer, are of the greatest eminence in the profession. Some of these comments, reflecting on the diagnosis and disposed to lessen the importance of the case, declared that it was nothing more or less than a "boil;" others, impelled by antagonistic political prejudices, and the wish doubtless engendering the belief, declared that the case was one of senile gangrene, that it was gradually consuming its victim, and that even in case it were arrested temporarily, it had cast its baneful influence over the brain of the distinguished sufferer, so that he would never again be of any service to himself, his friends, or his country!

As a further intimation of the degree of annoyance to which the medical staff in this prominent case was subjected, I may be permitted to say that both the patient, the friends, and the doctors were deluged daily with scores of letters from so-called physicians all over the country; from ignorant and audacious quacks extolling, with orthographical errors in every word and false syntax in every line, the never-failing curative virtues of their potions, to the more learned and *quasi* educated physician from whom we would expect different conduct, tendering his advice and services, if desired, in long communications in which the pathology and proper treatment of the case were ingeniously and plausibly discussed. It is scarcely necessary to say that these communications never in a single instance confirmed the diagnosis or sustained the treatment that they fancied the attending physicians were adopting.

The chief interest to the physician in this case lies in its pathological character; and the sudden and lamented decease of the subject of this sketch less than three months ago, as well as the instantaneous and unexpected death of an own cousin a few days afterward, would certainly seem not to lessen this interest. These allied events indicate with much precision an innate predisposition to vascular degeneration, perhaps both arterial and cardiac. The physicians in attendance were practically unanimous on the conduct of the case, since one toe was plainly in a state of sphacelus and several of its fellows on the very border-land of mortification for days and days. The writer could not, however, he is loth to say, quite agree with the united opinion of his worthy and most excellent counsel, that we had to deal with a case of *senile gangrene*, with all that that term implies as to pathology, course, and probable termination. In so declaring I disavow any intention the most remote of arrogating to myself any superior powers of discrimination or judgment; for surely the antecedent history of the case, the then existing state of affairs, and the late, sudden, and sorrowful termination of so honorable a career and its probable cause, go very far to corroborate the opinion always maintained by these gentlemen. But having seen the case from the first, as I did, and being without the suspicion of a doubt that it was one of erysipelas, cutaneous, pure and simple, I was then of the opinion, and yet remain steadfast in the belief, that the disease was only transferred to the deep-seated structures from some unknown cause; and, there being a predisposition to arterial degeneration, that these vessels gave way before the fury of the inflammatory process. The following are some of the reasons strengthening this belief:

Mr. Hendricks' age was not very advanced, and the attack came on in the midst of perfect health. His physical condition was equal to any draft likely to be made upon it, and the mental state was sound, strong, hopeful, and buoyant; in short, a state of affairs the very opposite of *senility*.

Again, turning to the pathological anatomy of the gangrenous part, it will be seen that the tissues supplied by the interosseous arteries alone sloughed, whilst the plantar surface of the toe, supplied by the digitals from the plantar arch, resisted the inflammatory process to the last; and from these the member was finally reproduced. Now it does not seem to be within the bounds of probability that a pair of vessels would be affected by any special degenerations, and its associates be sound, or at least be able to withstand the shock of so great an assault; and its immediate neighbors from the same trunk to remain pervious and perform their functions to the last.

Again, the pathological theory urged by Dupuytren and others in these cases of so-called senile gangrene would seem more plausible in the case under consideration; that, assuming that there is arterial degeneration, atheromatous, calcareous, or osseous, inflammation of the vessels is a very common result, and that occlusion must be a frequent issue of arteritis, and hence gangrene of the dependent tissues. But such was clearly not the case in this instance, for the inflammation was diffuse and comparatively wide spread, and not confined to the course of any particular vessels, as can usually be made out in arteritis.

Lastly, I only mention the subject of embolism to discard it as standing in no relation of cause of mortification in this case, since, as has been before said, there was not the slightest abnormality to be found about the heart, either valvular or otherwise; and, besides, a very different train of symptoms would have been present in starvation of tissues from this cause, amongst which I may only mention that the gangrene would probably have been dry, whereas it was very clearly moist.

And now I beg leave to relegate this whole subject to the pathologist, in case he may deem it of sufficient importance, with the hope that he may be able to interpret the relation and sequence of these phenomena, from the time of the slight paralytic attack, five or six years ago, to the sudden termination of the case in supposed apoplexy, together with the intermediate attack of gangrene, with its complete cure; and to offer an elucidation of the innate temperament and predisposition, and the transmitted hereditary taint.

INDIANAPOLIS, January, 1886.

ARTICLE II.

INSANITY AND PUBLIC OPINION.* By J. R. MACGREGOR, M.D., New York.

The difficulties which stand in the way of forming a just conception of a subject scientific in character, and having broad bearings in relation to society, are owing to a variety of circumstances. Partly from the fact that no subject is so simple that its full explanation lies upon the surface; partly from its tangible character—being made up of conditions which are not uniform—not presenting an invariable picture, and consequently not easily defined; partly from a series of complex relations, involving considerations, which, being viewed from different standpoints, tend to induce views of an opposite kind; and partly from the crude notions associated with that ignorance which characterizes the average intelligence displayed by the community on subjects much outside of the ordinary business knowledge necessary to the individual in daily life, with its accompanying prejudices; in which the tendency seems often for a spirit of dogmatism to crop out in a direct proportion to the degree of such ignorance. It may not be an extravagant assertion to state that, in the features mentioned, a more appropriate illustration can hardly be found than is presented by the insane condition.

Some of these difficulties are not encountered by the class only which we term non-professional; for if we look through the columns of the daily press, we frequently find litigations going on, both civil and criminal, showing antagonistic positions on the part of professional experts, so called, and those who are experts in reality, and from the particular standpoint at which each individual expert may look at a given case—it may be neurological, psychical, or clinical—producing corresponding conclusions, which, taken together, tend to confuse rather than clear up, and occasion a vagueness in the effort to arrive at a definite and satisfactory conclusion. This want of harmony of opinion in the medical fraternity is in some respects to be deplored, on account of the uncomplimentary strictures the profession is liable to receive from those disposed to be uncharitable; also from the fact that it tends to create an impression in the minds of the community that there exists either a lack of logical acumen in the medical mind, or that the standard of acquirements is below what it should be, while if adequate capacity and sufficient industry were applied to the subject, discrepancies of opinion ought to disappear. Closer inspection, however, would reveal the truth that this, like every other subject of a complex nature, which is not founded on a mathematical or some invariable basis, where the result sought after is attained by computation or some similar process, must to a great extent enlist hypothesis in which differences of opinion mark a healthy skepticism as favoring the elimination of error rather than betraying weakness or incapacity. Instances are unfortunately too frequent where this superficial judgment on the part of the public places the profession in a light where it receives contumely or discredit, when sincerity should be accorded and charity extended, and where not only the counsels which it dictates are disregarded, but even the motives which prompt a conscientious discharge of duty are impugned. The march of progress in all pursuits on the part of the intelligent who are in the van, seeking for an advanced knowledge, and whose carefully formed judgment should compel, on the part of the reasonable, the readjusting of views, and as a consequence the remodelling of customs, is so hampered by the masses who trail in the rear of enlightened advancement, clinging with a pertinacious obstinacy to the exploded notions of antiquity, as to present an almost discouraging prospect to those whose efforts shape the plans of social development; were it not for the fact that real reformers are imbued with such confidence as to courageously withstand reproach, or are so philosophically patient from the conviction that truth will eventually prevail, as to be content to wait for public opinion to grow.

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* Read before the New York County Medical Association, December 21, 1885.

It will be endeavored to notice, in the light of the general observations above offered, without presenting the subject of insanity in its whole aspect, some of the conditions it exhibits in connection with the ordinary notions entertained thereon by the community.

In former times, when not only society in general, but even those whose attainments were of such a character as to entitle them to be looked upon as leaders in opinion, had not become emancipated from that thraldom which involved the belief in the existence of supernatural agency regulating all the affairs of men, the occurrence of insanity was supposed to be occasioned by the direct influence of the Deity, and the unfortunate subject was considered, for some unknown offense, to be laboring under the displeasure of the Creator, and suffering punishment in consequence. Such unfortunates were regarded with aversion, and they were usually consigned to chains and dungeons, where, whatever might have been their chances of recovery under favorable circumstances, they were effectually excluded from the benefits thereof by a course which operated only more certainly to intensify morbid mental action, and fix more firmly the conditions of disease. The disjointed phenomena of mental derangement being thus regarded as a direct dispensation of Providence, and the nature of the affliction beyond the grasp of human scrutiny, it was not expected to be understood. Hence inquiry was discouraged at the outset, and hope of recovery considered out of the question, except under the unlikely operation of the same power which induced the catastrophe. If it were not for the ill results which such a view occasioned, it might be regarded as one of the curiosities in medical history, as having existed for so long a time; society in the meanwhile remaining complacently satisfied in the full conviction that the claims of charity and the dictates of benevolence were adequately fufilled.

A somewhat similar state of things characterized the theory that the mind could be disordered as a separate entity. Although the semblance of a claim that such a view might be supported by a foundation having psychological bearings, and could therefore enlist the attention of those who were ranked in the scientific or philosophic scale, yet it was largely surrounded by a mysterious atmosphere in which the element of the marvellous would naturally creep in. Anything like the knowledge of a definite relation between the state of an organ and the manifestation of its functions, as applied to the features of this malady, was, to the believers in this doctrine, apparently beyond comprehension and not to be thought of. The effects of this view were hardly different from those of the one previously mentioned as regards their operations upon the customs of the community as displayed toward the class afflicted, or the light in which their misfortune was regarded. Having no knowledge, and there being no means of acquiring any, of the nature of mind as an independent principle unconnected with the instrument of its material manifestation, it was apparent that all attempts to reach this principle or modify its qualities would be to no purpose. It did not address itself to the understanding of the times, that the mode of action of a disordered mind can only be satisfactorily studied as it is combined with the organization, and existing in the compound state of relationship. The efforts of those seeking information concerning the disease from such a standpoint of view were, as might be expected, negative in results. It was found to be beyond scrutiny, and the unfortunate exponent of its conditions had much the same destiny as he who was supposed to be afflicted by the direct visitation of God. It is not surprising for us to learn that under such considerations the treatment received by the insane was not free from hardships and even cruelty, and likewise by no means conducive to restoration.

In a state of society with such opinions prevailing, we cannot but admire the courage and advanced intelligence of Pinel, whose foresight prompted him to institute a new order of treatment for these unfortunate people, by freeing them from their chains, and restoring them to kindness, and whatever degree of liberty their safety would allow; thus placing them back in the scale of humanity as objects of solicitude and sympathy. Of course, so far as professional knowledge is concerned, the views of insanity stated above are relics of the past. They remain of interest to us, however, as a study of the errors into which our predecessors have fallen, and which can never be uninstructive. No man has acquired so much wisdom, nor has society made such advances, as to gain nothing from a retrospect of past mistakes. To the laity, however, these views still hold, at least in a more or less modified form, and with various degrees of intensity, by which their opinions are moulded.

When we come to trace the changes which mark the progress towards a more enlightened view of all subjects which are capable of being unfolded by fresh accumulations of knowledge, we find in the progress of such advancement that usually there is a broad field between primitive ignorance on the one hand and the bright daylight of positive knowledge on the other, a field of partial obscuration where the mists of uncertainty only gradually clear up under the effects of time and application. Here and there some glimpses of the truth may be discerned, but they are faint at first; nothing very tangible—nothing very positive can be grasped. There is wanting that full power of unfolding phenomena by the scrutiny of known adequate methods, by which the mind is enabled to form definite connections and trace the relations of cause and effect. In this state, what is known is not sufficient to prevent the course of inquiry from running into vague theories and being subjected to the thraldom of a superstitious groping among the regions of the marvellous. We see an illustration of this in that theory of insanity which, although an old one, held its believers for a long time, and in spirit still survives, with some, in its original character, and with others, in seeking after the means of cure of their various disorders in resources which make them fall an easy prey to the wiles of the charlatan. I allude to the doctrine of lunar influence as the cause of insanity. How this notion became established it is not easy to say. Possibly it was the outgrowth of the speculation of former times, aided by traditions and gradually acquiring the form of a definite belief. The discontent which mankind has shown in all ages with the conditions of life has led to the desire for the means of securing a change. It has mainly been directed towards three objects which are naturally regarded with aversion, namely: death, toil, and ignorance of the future. The first prompted many to imagine that they might find means to avoid death, or at least prolong life to an indefinite period. Hence arose the search after the elixir of life. The second, the means of commanding abundance and comfort without labor. From this sprang the search for the philosopher's stone. The third, the craving after a knowledge of the events to come. This gave birth to the false science of astrology and its kindred studies. The functions of all these searches after the unattainable became more or less blended, and we learn from their history that many of their devotees practiced in all these specialties. It is not unlikely that the doctrine of lunar influence became in some way associated with the arts of the astrologer and his auguries, in connecting the positions of the stars and motions of the planets with the destinies of men. A disease supposed to be brought about by such mysterious influences must have required in the minds of its votaries a mode of management similar in character. Its treatment accordingly, where any was adopted, consisted mostly in charms, amulets, and incantations.

If it excites in us a feeling of commiseration at the present day to contemplate how great a degree of ignorance prevailed in former times on all that related to this subject, could we canvass and accurately measure the average knowledge which society to-day possesses concerning it, we would find much to humiliate us for the lack of progress. Old ideas still cling like dead branches hindering a healthy growth. Instead of thankfully receiving the truth and adopting its reasonable dictates, the tendency is still too much to regard all progressive knowledge as new-fangled and visionary. It is not contended that a certain degree of caution, when an innovation upon prevailing opinions is made, is not proper; but there is no doubt that there is in the community too large a percentage of men who, intellectually considered, from custom or organization, are like a blind horse in a mill, satisfied with the same dull round.

The evil effect of such deficiency is apparent not only in the crudities and errors which are adhered to as established truths, but they present themselves as obstacles to that advance which would enable the insane to be better cared for and a more efficient system of treatment adopted which would be productive of a larger proportion of recoveries. A very extended amount of proof could be advanced in support of this statement, showing how greatly those in charge of the insane are handicapped in their endeavors to relieve this class of patients by the community in its mistaken zeal as a direct result of such lack of knowledge.

A very prevalent idea is that every asylum contains a number of inmates who do not labor under the disease at all. This must necessarily involve the inference that the superintendents are deficient in principle, and consequently unworthy of their positions; that a collusion on the part of hospital managers, with motives which are none of the best, can be effected, with the necessary processes having the appearance of regularity, and conforming externally to the requirements of law, by which a person in the full possession of his mental faculties is forced to surrender his personal freedom and the control of his affairs. To suppose that one whose whole professional life is spent in enlightened study, in a direction which exercises those qualities of the heart that call forth the kindest impulses of which humanity is capable—holding relations to society in a matter of the highest importance to its well being, where qualifications of the highest professional order are requisite, and to whom reputation is everything, can be regarded as susceptible of compromising all this, and of descending to the practice of that low sort of cunning which characterizes the operations of the embezzler, the blackmailer, and the professional gambler, is one of those anomalies that are hard to explain, except upon the warrantable deduction that the character of these gentlemen is not generally understood. In reference to their regard for principle, it may be said that they are entitled to that confidence which is presumptively accorded to every person who occupies an honorable and dignified station; and they likewise can claim the common right of exemption from an odium which springs from misrepresentation. For any one who will take the trouble to inform himself in the spirit of candid inquiry it may be safely asserted that their record as a class will be found to compare favorably with that of any other in the qualities of moral sense and the appreciation of what is just. The fact may not be generally known, but it is most rare to find the office of superintendent of an asylum conferred upon any one who is not known to be possessed of both a social and professional reputation. Political favoritism does not often influence these appointments. The selection is almost exclusively made from men of acknowledged standing and who have had a previous experience in other similar institutions, in the capacity of either superintendent or assistant.

In what relates to their professional acquirements, among the medical fraternity there is little danger of their suffering an unjust disparagement at its hands, at least with those who have had sufficient acquaintance with them. Those skilled in the nice discriminations of a particular line of practice, both in diagnosing and treating disease, and conscious that their attainments are the results of good natural gifts, persevering application, and a wide experience, are hardly to be supposed capable of undervaluing the same order of powers, the same enthusiasm in pursuit, and a like enlarged experience when applied to a different department of medicine.

With the community the case is different. We cannot expect it, with its present average intelligence, to properly appreciate a subject about which it knows so little that is reliable. The consequence is, that the suspicious element in the common mind can easily be aroused and made to follow the direction of any one bold enough to lead and plausible enough to enlist its sympathies for a seemingly good object. It is only necessary to declare that the sacred right of liberty has been infringed. A sane person who has all the claims to that happiness and enjoyment which law and the usages of society accord to the upright has been ruthlessly deprived of those privileges. Popular clamor assumes sway and cries out for retribution ; and there are never found wanting those of the law who, either for the emolument to be gained or the *éclat* that will follow, stand ready to embark in the enterprise. Of these professionals, the best that can be said, where honesty is not questioned, is, that, partaking of the same prejudices, and showing no evidences of a better understanding of what insanity is, their influence and opinions should be passed into the same common mass with those of the impulsive and unthinking community.*

The propriety of taking charge of an insane person and placing him where he will be subject to the conditions most favorable to recovery, and from which the community will be secured from the effects of his extravagances, is so obvious as to meet with general acceptance. Even the patient himself, should he recover, will add his own approval to the judiciousness of the steps taken for his benefit, and show a gratitude towards those who acted in his behalf. There are no differences of opinion here as to the sentiment, or the motive ; but the difficulty lies in the inability to make always the proper application of the principle. There is a large number of cases, not to say of a doubtful character, manifesting the various forms of chronic monomania, where the affection is short of raving madness ; without chaotic faculties, or violence of demeanor. When under the power of a control the patient can command, when he is aware that he is under notice, he is able for a time to repress the diseased chord from the observation of others. Such a one, moving in the daily walks of life, would be likely at times to betray some signs of his derangement. But when apart from the community, in the isolation of a hospital, the demeanor shown when subjected to the occasional contact of a visitor in a few minutes of conversation might comport very closely with the condition of acknowledged mental soundness. Such persons usually regard themselves as perfectly sane, and vehemently protest against what they consider an unjust confinement. If they do betray inconsistencies of manner, retaining, perhaps, all of their natural shrewdness, they are at no loss to find plausible explanations for their peculiar conduct. These observations will apply also to those cases known as moral insanity. Every asylum contains a large percentage of these characters, and they are always regarded as troublesome patients. They are continually getting into "hot water," and give the management no end of anxiety in their interference with the good order of the establishment. So far from having a desire to hold them in unwarrantable detention, the officers of the institution, it would be found, if their real sentiments were known, would be only too glad to get rid of them were it consistent with their obligations. It is from the representations of this class of persons that the complaints of the abuses and cruelties practiced in asylums derive their largest sources. One of the common infirmities of their condition is the propensity to mendacity; and, short of this by the ingenuity they display in distorting and coloring the features of an incident, they are able to place a construction upon it totally at variance with the actual facts. When discharged from an institution before recovery occurs, and they resume their place in the community, they are apt to busy themselves with various wild schemes of business enterprise, or devote their attention to the working out of an impracticable invention, by means of which they expect to realize enormous wealth, or revolutionize the domain of mechanical art. This temporary career usually ends by the commission of some overt act which brings them within the cognizance of the authorities.

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* It is not here intended to cast any reflection on an honorable profession, one to whose efforts society is so largely indebted for what it enjoys in its security and well-being, and whose great minds have adorned the intelligence of every nation where civilization has attained its highest development. The allusion is not meant to extend further than to recognize that its ranks, as is the case with ours, are not exempt from the intrusion of the adventurer.

A case illustrating some of the features here described occurred two years ago in the upper part of the city. A young man, twenty-eight years of age, part proprietor with his brother of a drinking saloon, began to manifest symptoms of mental irregularity. He was engaged to be married to a young woman of a different religious persuasion from that to which he belonged. This was distasteful to his relatives. One of his freaks was to have painted on the outside of the store a huge representation of the elephant Jumbo, which attracted the curiosity of the passers-by, and whatever relation it had to the nature of his business, he did not explain. Another was the invention of a peculiar kind of mixer, by means of which he could turn out any kind of drink ready made, after the manner of the magician's bottle. On one occasion he went to a drug store, and by misrepresentation, obtained five grains of strychnine, which he took home and swallowed. From the effects of the poison he was saved by judicious treatment. After his marriage his conduct became still more peculiar; so that his relatives found it necessary to have him placed in an asylum. He managed to secure the services of a lawyer, who brought his case before the court, claiming that his incarceration was the result of a persecution on account of his marriage. A commission was appointed to examine his condition, which resulted in his being pronounced sane, and he was discharged by order of the court. Among the first of his acts on being liberated, was the institution of an action for damages in fifty thousand dollars against the physicians who made the affidavit in his case. Having some knowledge of his acts, which became notorious in the neighborhood, the writer, when learning of his discharge, ventured to predict that it would be only a question of time when he would bring himself again in the hands of the law. Not more than a week had passed before he was arrested for an attempt to shoot his mother. More competent persons were selected to examine his mental condition, and he was again placed in an asylum.

Notwithstanding the general prevalence of the idea that the practice of confining in asylums persons who are sane is a common one, the facts, where it is possible to ascertain them, go to prove that it is not well founded. Some six or eight years ago this subject was agitated in Great Britain, and Parliament appointed commissioners who were empowered to visit every asylum, both public and private, throughout the kingdom, and personally investigate every supposed instance. This order was executed with thorough minuteness; but the commission was unable to discover a single well-authenticated case.

That there are such occurrences as asylum abuses, no one will pretend to deny. But that both their frequency and character are greatly overstated, is equally true. The announcement of a circumstance of this kind, served up by the press with the exaggerated force of a dramatic tone and coloring, will hardly fail in carrying the multitude, and the construction put upon it is also very wide of a logical induction, namely, that it is inseparably connected with the system. A single instance is sufficient to array the sentiments of the public in an attitude of hostility towards all asylums which, when once assumed, it is next to impossible to change. A careful inquirer, with unbiased spirit, taking nothing for granted, and willing to devote himself to an extended investigation of this matter, will find, as he proceeds, that the magnitude of such an evil will steadily diminish in its proportions.

Wherever these do occur, it will also be found that they are confined, for the most part, to those institutions which, from their construction and appointments, are not such as are adapted to carry out the highest needs of the insane. The very large establishments usually built in our municipalities for the insane poor, where immense numbers are congregated, are run on so cheap a scale that the individual cost, per patient, is scarcely greater than that of the inmates of poor-houses. The wages of the attendents are so low as to command only the poorest kind; consequently the service is continually changing, and they do not remain long enough in the establishment to become familiar with their duties, or acquire that self-discipline necessary to properly deal with those in their charge. In addition, the number of inmates is so great that it is impossible for the superintendent, no matter how great may be his capabilities, to acquaint himself with the particulars of the disorder in all his patients. The best he could do, under the circumstances, would be to exercise a general supervision over the workings of the institution. The wonder is that in these establishments, with the resources available, they succeed in doing as well as they do. Complaints of ill-usage are very seldom made against private asylums, or those governed by private corporations, where such rates of charge are made as will command the best arrangements for treatment, and the highest order of service. It certainly is not within the range of a reasonable expectation that an institution supplied with means barely sufficient to fulfil the needs of a physical existence, ought to exhibit the results of the highest capabilities of the system. In this connection I cannot refrain from quoting a paragraph from one of the annual reports of the late Dr. Luther·V. Bell, formerly Superintendent of the McLean Asylum, at Somerville, Mass., whose views upon any subject connected with insanity and the insane are entitled to peculiar weight. "There is no such thing as a just and proper curative or ameliorating treatment of the insane, in cheaply constructed and cheaply managed institutions; but to do the greatest amount of good to the insane, the mind of the tax-paying community must be trained to understand and admit the necessity of expensive arrangements, and that if it is worth while to have any institutions beyond those receptacles in which the most patients, or rather the most sufferers, can be crowded together at the least charge, it is worth while to establish such as will accomplish all of cure or relief which is practicable."

A vulgar opinion exists, to some extent, in the community, that any person of ordinary intelligence is as capable to judge of the insanity of a patient as the most experienced hospital director. How such a notion should be rationally entertained, strikes us as one of the anomalies which are difficult to explain. Persons having their ordinary senses would not go to sea in ships that were not constructed by competent shipwrights; their common prudence teaches them otherwise. They will readily acknowledge that the art of ship-building is a special one, and that its present state of perfection is the result of centuries of study of mechanical problems in accordance with the laws of natural philosophy, and of practical experiments, with the assistance of skilled artisans, to construct a model combining the greatest strength, beauty of form, the reduction of friction to the lowest degree, and an economy of material; and that every one engaged in this pursuit should be qualified by a long period of apprenticeship. They would also acknowledge that these same principles are equally true as regards every branch of industrial art; but when considering the more delicate and difficult problems pertaining to the operations of the human mind, they unhesitatingly throw these principles aside, and resort to the false reliance of an instinct based upon presumption. To this principle—the necessity of the qualities of experience and training in the abstract, as a speculative proposition—they may perhaps make no objection; but, as before stated, in a given case they are unable to make the application. Hence their conclusions are too often swayed by means of an influence which is free from the trammels of a roundabout logical induction, namely, the evidence of their own senses. They have seen the patient, conversed with him, and under that power of control which he can often exercise, found him betraying no inconsistencies of manner or speech, and listened to his longing appeals for the endearments of home, and the importance of looking after business interests that require his attention. They return from the visit with no very exalted opinion of the physician in charge. His doubts they are very apt to refer to any motive but the true one, and the difficult nature of the case they cannot appreciate for the simple reason that they know very little of the workings of the mind, whether sane or insane. The judgment displayed under such circumstances would be very likely to be such as was exhibited by an official inspector of public institutions in a neighboring State some years ago, who, in the course of an annual statutory visit to one of the asylums, with some other functionaries, ran up to the Governor, who was one of the party, exclaiming, "I have found half a dozen people here unjustly confined. I have been talking with them, and they are no more insane, may it please your excellency, than you or I."

The following case, illustrating the force of these observations, came under the notice of the writer: A man about forty-five years of age, whose habits were none of the best, became affected with melancholia accompanied with delusions. He exhibited no wildness of manner, but was unfitted to attend to business, and neglected his family, so that its support devolved upon his wife. He often wandered about without definite object, and was unable to give a satisfactory explanation of his absence. It being found necessary to do something with him, the requisite examination was made, and he was considered an appropriate subject for the asylum, and accordingly placed in one. After some months his delusions subsided, and he was able to engage in some light duties about the institution. Being a member of a benefit society, from which his family, on account of his incapacity, were receiving assistance, his condition and prospects were a subject for its attention, and from time to time the members would visit him. After his peculiarities had moderated, these visiting members concluded that he had recovered, and that he should be discharged; reporting to this effect to the society. Thereupon the lodge appointed a committee, at the head of which was a legal gentleman, including two physicians who were empowered to employ a third physician; the three medical men constituting a sub-committee who were to examine the patient and report to the main one. The writer was selected to serve as the additional physician. In case the patient should be pronounced as recovered, the legal gentleman proffered his services to institute proceedings to secure his release. The medical examination was accordingly made, and the patient was found to be quiet, and answered simple questions, but would not engage in extended conversation; he was a little dull in manner, and seemed to betray a slight timidity. There was some doubt as to whether this condition was the quiet of an approaching recovery, or the indication of a tendency towards dementia. In addition there was a slight tremulousness of both the hands and tongue, creating a suspicion of a possible tendency towards paresis. The medical report gave its views in detail, and closed with the opinion that it would be injudicious to remove the patient at present. This report satisfied the lodge, and no further action was taken. Subsequent developments have proved that the grave suspicions were well founded, for the patient has gradually drifted into a condition of hopeless paresis.

There is perhaps no more striking instance in modern times, illustrative of the divergence of opinion in a particular case, than was brought to the public notice in the litigation of the will of the late Henry Parish, which occurred in this city some twenty-eight years ago. The decedent, who was a wealthy retired merchant, descended from a family of apoplectic tendencies, the father dying of the disease. In July, 1849, he was seized with a stroke of paralysis of the whole right side, with loss of speech, which he never regained. In the course of a couple of weeks he had so far rallied from the shock as to be considered out of immediate danger; but until the time of his death, seven years after, he remained a permanent invalid, having occasional epileptic seizures. During this long period he was never known to utter an intelligible sound, save a few indefinite monosyllables, which were variously interpreted by those about him. His pantomimic efforts to indicate his thoughts and wishes were of so limited and vague a character as to be below the grade of many of the brute creation. He required to be constantly supervised and assisted, and was never without the presence of his wife or a hired nurse; his bodily infirmities calling for frequent attention, and his intercouse with visitors having to be conducted for him. In the course of his long illness he came in contact with a large number of persons—physicians, nurses, friends, etc. It is very interesting to notice the great diversity in the opinions of these persons, and the interpretations they gave of his movements and manner. This was particularly the case in regard to the nurses in attendance upon him. Some, with the probable desire of making their charge appear to the best advantage, considered him not impaired; one understood his signs so well that he regarded him as in the possession of a sound and vigorous mind; others declared that they could make nothing out of him. His condition physically was carefully looked after, and the counsels of distinguished physicians (some specialists) were freely availed of. Efforts were made to have him instructed in the use of left-hand writing; but after many urgings, he could only be induced to make one endeavor, which resulted in three or four irregular strokes of the pen, which were declared to mean "wills" by one, but were unintelligible to every one else. Pictures, blocks, alphabets, and all other appliances which are usually resorted to, in order to enable those who are deprived of speech and unable to write, to communicate intelligence, were brought into requisition, but without avail. It was claimed that he would transact business, and ride to Wall Street in his carriage to reinvest his funds in stocks and bonds, showing great shrewdness in selecting sound and remunerative securities. This, however, was always done under supervision; none but first-class certificates were presented for his inspection, and the choice he was supposed to make was invariably indicated by his guide. It was also stated that he took an interest in the affairs of the household, and would personally make the daily market purchases. In his daily walks, led by his attendant, he would be conducted into the shop which was near his house, and put into a chair. Various articles of the table—meat, poultry, game, and the like—would be held up for him to look at and smell, and in answer to some movement which was taken as a sign of assent the article would be laid aside as one of his purchases, and so on until the process had been gone through with. It was, however, generally completed by having the whole or a portion sent back, and a more suitable selection made. A great deal of attention was bestowed from time to time in examining into his physical condition,—the state of his digestive functions, power of vision, etc.,—by the physicians in attendance, but at no time during his protracted illness was any effort made, by bringing in mental experts, to determine the condition of his mind. There was one feature in this invalid's condition of much interest in a medical point of view, and highly important as a subject for pathological inquiry, namely, the occasional evacuation of the bowels and bladder involuntarily. This symptom continued throughout his illness, and became somewhat more frequent in its occurrence towards the close of his life. This was considered to be of doubtful causation —irritability of the bladder and rectum, or from a loss of power—a palsy of the sphincters, the result of indigestible food, etc. The true nature of this symptom, as the manifestation of an advanced grade of dementia, has received a masterly exposition at the hands of Dr. Bell in his opinion as one of the medical experts employed in the case. The man has passed away—the opinion still remains as one of the foot-prints in the march of his gifted and logical mind.

There is probably no point connected with insanity which elicits a greater popular interest, while at the same time there is hardly any other on which the public mind needs more remodelling and reforming, than the knowledge of its causes. The instinctive curiosity which exists in the minds of men to know the why and the wherefore of any circumstance of interest or importance naturally impels them to cast about for the discovery of an agency which is capable of furnishing the desired explanation, and whatever may be the difficulties that stand in the way, they are by no means discouraging to the endeavor. Not that the common mind is apt to take upon itself the labor of unravelling perplexities such as characterize the investigations of the philosophical inquirer, but it finds so often at hand the resources of a species of an intuitive "ready-reckoning" logic, which fits the case so well as to be unable to resist its employment. This fallacy is traceable to the very common error of supposing that every remarkable event is preceded by one equally remarkable. The irresistible tendency, therefore, which the public manifests on this subject is to seek for some prominent circumstance which has gone before, and assign to it, in conjunction with the after phenomena, the relation of cause and effect. It is sufficient that things should present a certain order of sequence to establish the connection, and if the reasonings by which they are carried often lack but little of downright absurdity, it is only because the incidents considered are less familiar and palpable than those to which they are accustomed. The causes of insanity are varied and diverse, covering a wide range of conditions, and often hidden in deep obscurity. Their consideration involves the knowledge of parentage, family history, physical and moral traits, personal health, education, customs of society, habits of the individual, etc., and there is often much doubt experienced in estimating the relative degrees of force which these several influences, taken together, may have exercised in their operation in a particular case. Where insanity arises from a blow on the head, or from sunstroke, of course the cause is sufficiently obvious; but in the vast majority of cases there will be found, in tracing the causation, a variety of circumstances to be taken into consideration, some, to the trained mind, easy to discern; others difficult of appreciation, and only after long observation to be discovered. It often happens that manifestations which were regarded of the greatest significance were subsequently found to have had less to do with the development of an attack of insanity than some obscure diseased cerebral action, which, although imperceptible at the time, proved none the less real. Yet, when a case occurs under our notice, the first question propounded by those interested in the patient will probably be, "What was the cause?" and we may run the risk of damaging our reputation for professional sagacity if we do not have ready at hand a prompt and specific answer. Tracing the movements in the mental history of an individual, unfolding their relations to one another, and the circumstances to which they have been exposed, with their manifold intricacies, is a problem which is an enigma to the mind of the laity; but in evincing their interest in a case which concerns them—and this they are apt to do to an annoying degree—the friends are prolific in their views respecting the cause, and these are often advanced with a degree of confidence from which the most experienced alienist would shrink. To show the unreliability of such opinions, and their entire lack of any philosophical discrimination, it is only necessary sometimes to place in opposition the opinions of two sets of friends, who, either with opposing motives, or regarding the case from different standpoints, reach conclusions which are directly antipodal to one another; each side in the meanwhile remaining satisfied that it has made the correct conclusion. In this connection it may be stated that the statistical tables which are appended to the reports of asylums in which the causes of the disease are individually noted are largely unreliable, because the information upon which they are based is derived chiefly from this class of people.

While it is obvious to the enlightened mind that the only satisfactory way of gaining a knowledge of the causes of insanity is by intimately examining all of its conditions, nevertheless, to the bulk of mankind this is distasteful; in whom the tendency seems to be to run after the marvellous, and seek a kind of information that will produce a powerful, rather than a healthy, impression on the human mind. This has led the social reformer in the pursuit of his favorite hobby to manipulate the truth in a direction favorable to his enterprise, in uprooting some special evil existing in society, some particular vice or practice, such as intemperance or sexual indulgence, with the suppression of which the earthly millenium is expected to come. It may be said, however, in regard to these vices that, although they unquestionably hold their place in the causal list in various degrees of influence, it often becomes a question as to what the true relation is that they bear towards the disease; how much they may be considered as causes, as symptoms of development, or even as the results of the disease. Nevertheless, the reformer in his enthusiastic crusade, like a modern Don Quixote, sees in every circumstance only the particular enemy which it is his mission to subdue. The literature of the subject is ransacked for statistical and logical proofs, and whatever is found favorable to his views loses none of its force by transmission through his hands.

That the community recognizes hereditary influence as a cause of insanity is of course well-known; but the mode in which this influence is exercised is not comprehended. When a case occurs which can be referred to this factor, it is supposed to operate as a foreordained contingency, an inevitable result of the taint, and not to be obviated. The idea of the diseased element having a developmental growth, accelerated or retarded, or even prevented in the culmination by affecting circumstances, is foreign to the conception. Insanity in a parent, and its subsequent appearance in the son, may be two circumstances in a chain of events having many links of connection, which, from not being visible upon the surface, are supposed not to exist. We may say in regard to disease generally, with perhaps the exception of syphilis, that it is not so much the disease "*per se*" that is transmitted, but rather the tendency. And where the tendency develops into disease, it does not follow that it must always present the identical form that it did in the ancestor. It frequently happens that the manifestation is that of some allied disorder. Insanity forms no exception in this feature.

It is generally understood that herditary tendency occupies the first place in the list of causes; but, if asked to specify what influences were most potent in developing the disease, we would be likely to say—those which produce their effect upon the emotional faculties. These are equally an attribute of the brain as those purely intellectual, and upon a proper or improper employment of them the securing of a well-balanced mental condition largely depends. The vast amount of wear and tear occasioned to individuals, which appears to increase as the penalty we pay for our modern customs of life, for the most part comes through the inordinate application of those faculties. The exactions of business pursuits, in which the tendency of the age is to relinquish the healthy occupations of labor and agriculture to acquire wealth rapidly by means of greater mental activity in departments where sudden strokes of policy with their concomitant sensations of hope, apprehension, and disappointment, and where failure results in one direction, the ready resort to a new enterprise, from the multitudinous opportunities which are constantly presenting themselves to the fertile brain—the increasing extravagance of living, with its enervating effects—the unattractive character of self denial, leading to the propensity for the full gratification of all desires—the immense amount of ephemeral literature thrown broadcast over the land, with incidents, and written in a style, calculated to stimulate the most profound workings of the feelings—the lessening influence of home circle attractions in modifying and softening the character—all these influences have their action in a direction which calls upon the emotional faculties to sustain. A proper appreciation of such features as these is important, as a part of that education which the public mind stands in need of.

There is another topic relating to this inquiry which, if rightly apprehended, would tend to uproot a vast amount of prejudice and practically redound to the welfare of the afflicted subjects. It refers to the curative measures which are most appropriate for the disease. We will readily grant that the sympathies of friends and their honest desire for the recovery of a patient are enlisted for the employment of those means which are best calculated to operate in his favor; but they instinctively incline to a course which, were it specially designed to do so, could not more surely operate against his interests. It is hard to overcome the very general repugnance which exists in the minds of some people against those measures which experience and the opinions of those practically versed in the subject have conclusively demonstrated—that there is no method so likely to produce a favorable result in the shortest time as the early removal of the patient to the hospital. The consequence is, in most cases, unless the violence of the attack call for immediate seclusion, that recourse is had to almost every other available expedient, involving a loss of time, thereby diminishing the patient's chances when unsuccessful, as is most generally the case. It is difficult for the friends to emancipate their minds from the idea that the removal of a patient from the care and attentions of those to whom he is most dear, and who would naturally be supposed to minister to his requirements in the tenderest manner, is in the highest degree subversive of his true interests. There is a hesitancy in resigning him into the hands of others who are not supposed to take any special interest in his case and whose management will probably be based upon the same motives which govern any ordinary business transaction, giving him no more attention than his personal safety may require or the institution can conveniently devote; possibly the first step may be to thoroughly subjugate him to the will of those in whose hands he may be placed by whatever severities the occasion requires—thus substituting the terrors of reality for those of his imagination. Moreover, the circumstances connected with the removal of a patient are often associated with incidents which leave disagreeable and even painful remembrances of the occurrence. The necessary firmness, and sometimes even force, required to accomplish the transfer shock the sensibilities of friends and excite the suspicion that these are only a commencement of severities that are to follow. The physician who recommends this course, and especially if he takes part in the proceedings of removal, is liable to be regarded with distrust, the reliability of his judgment is questioned, and even his uprightness of purpose may be doubted. A sentiment of antagonism springs up towards him, and he runs the risk of being regarded as other than the faithful adviser and friend. Those interested are loath to recognize that so long as a patient is allowed to follow the bent of his own will, he is only fostering and strengthening the morbid processes going on in his brain, and that while he remains in the surroundings of his home and in the companionship of his relations there are constantly brought to his notice objects and scenes intimately associated with the development of the disease, which likewise not only keep alive, but tend to aggravate, morbid action.

Antipathies to hospital treatment have occasionally led some to the experiment of retaining patients whose means would warrant it at home in apartments arranged for the purpose, with the assistance of hired attendants. This would enable them at all times to have access to the patient to know his condition, and prevent any harshness of management, while at the same time it would be supposed to furnish all the advantages of an insane hospital.

Nurses in private families, or even in general hospitals, are incompetent to exercise that control which the case requires. Seldom seeing the disease, they have little opportunity of acquiring that skill qualifying them for the duty. The best they could do under the circumstances would be to follow with more or less fidelity the instructions that would be given them. These the medical attendant could hardly furnish, unless he had been practically conversant with hospital treatment, and even then, unless in almost constant attendance, he could not provide for the changing moods of the patient nor be sure that his directions would be faithfully executed. The arrangements of an ordinary household do not admit of that kind of restriction which the insane usually require; consequently the retention of the patient at home involves either an unlimited indulgence of his caprices or a degree of coercion and confinement which breaks his spirit or ruins his health.

In an insane hospital these conditions can be effectively fulfilled. The persons engaged in their service become gradually acquainted with the ways of the inmates, and they acquire many arts of management and a degree of skill in the performance of their duties quite unknown to the outside world. The medical man, too, concentrating his attention upon a specialty, and devoting his whole time to its study and observation in the little community which is about him, gains an amount of practical information on the subject of insanity which he could not obtain in any other way. He also imparts to the general management an efficiency based upon the systematic effort, conducted upon a large scale. The superior success which attends hospital treatment consists largely in its moral management. This in a well-regulated institution works quietly and easily, and substitutes its own influences in place of those which favor disease. The routine habits of the establishment tend to insure a more quiet demeanor and a disposition on the part of the patient to be compliant to the wishes of others, and also to induce within himself the effort not only of self-control, but also to cultivate the power of repressing extravagance of thought and keeping the emotions in subjection to the dictates of proper judgment. To those who have seen it it is gratifying to watch the clouds of delusion and doubt dispelling under these influences, while the patient becomes animated with new hopes and motives of healthy action. That peculiar disposition of the insane which impels them to roam about without definite object, and at unseasonable hours, which in domestic management cannot be controlled short of downright seclusion in restricted apartments, is in an institution accomplished with the least possible annoyance. The range of ample galleries and airing courts, the opportunities for amusements of many kinds, reading, games, and even light voluntary occupation, are resources which those in the management of an institution know how to adapt to the wants of the insane. The officers, notwithstanding insinuations to the contrary, having no objects of their own to serve, partake of that spirit of kindness which prevails around them, and by their straightforward and steady demeanor meet with the fitful humors, wild caprices, and angry looks of the patient.

The domestic management of the insane is defective in another important particular. There is a period in the convalescence, after the excitement has passed away and the delusions have become dispelled, when the mind appears rational in all respects. Conversation betrays no inconsistencies, and the demeanor is such that to the friends or casual observer the patient seems fully restored. To the skilled observer, however, complete restoration has not yet been attained. The exhausting effects of the disease upon the brain have not altogether vanished. There is yet a want of tone; the capability of the patient to undergo the strain of emotions consequent upon his resuming his social relations, or of applying his faculties to the exactions of business, has not yet returned. A period of time must elapse before this can be gained. In an institution this period is as carefully attended to as the others. The recuperating faculties are kept within the limits of a judicious exercise and in ways that are couducive to complete restoration. In the domestic management, on the contrary, this condition is the signal for the removal of all restrictions, and the patient is permitted to return to his former habits. The sequel often proves that the experiment was too much for his powers. The morbid process is reproduced in perhaps more than its original severity, and it is only after weeks or months of treatment, if ever, that the patient regains the ground, he has lost.

There are many other features connected with this subject that would be interesting to notice, which would furnish ample illustration of the great want existing in the public mind, as a whole, of a proper conception of the conditions and needs of the insane; but the proper limits of a paper of this kind have already been passed. It may be safely asserted that the views which have been advanced will apply to them all. The assistance which a correct understanding of them meets with in penetrating the general mind, and the inability of the latter in its present state of information to form better opinions, is only in accordance with what is found in other departments of medicine; for how often it is in the experience of us all—in our daily contact with people—that in endeavoring to explain to them the nature of their ailments we find ourselves obliged to undertake the preliminary task of educating them up to the standard of comprehension?

It is scarcely within the bounds of a reasonable expectancy to look for any rapid change of public sentiment in these matters, so little disposed are men to relinquish notions when once acquired; and, although the prospect may not be absolutely discouraging, we must be content to await the slow process of a gradual cultivation among the people. Even revolutions are not born of the circumstances of a day; they are the result of a development, little by little, of conditions the impressions from which infuse themselves into the individual mind, until the aggregate force of the accumulation is sufficient to accomplish the change. Yet, inasmuch as it is incumbent on all whose endowments are well ordered to take a high *moral* stand in all questions that relate to the welfare of man—so it is within the province of each one who is actuated by a conviction that springs from honest inquiry, to lend his efforts, so far as in him lies, towards the establishment of an enlightened public opinion.

ARTICLE III.

THE PATHOGENY OF PNEUMONIA.

By R. H. DAY, M. D., Baton Rouge, La., Late President of the Louisiana State Medical Society.

"Is acute lobar pneumonia a primary local inflammatory disease, or is it an essential fever, the pulmonary affection being secondary thereto, constituting its anatomical character?"

The above is the first and main question in the series of questions in regard to pneumonia discussed by Dr. Flint and others before the New York State Medical Association at its last annual session, held in New York November 17, 18, 19, and 20, 1885.

It is hardly necessary to premise that the discussion was nearly all on one side, and the conclusion reached, nearly unanimously, that pneumonia is an *essential* fever, and *not primarily* an *inflammatory affection* of the lung tissue.

Can it be possible that for centuries the most enlightened and the closest observing physicians, of the keenest mental acumen and penetration, have been in error regarding the causes and nature of pneumonia? It has been so decided by a body of learned medical men, after months of preparation and study and a formal and set discussion of the subject.

Though with becoming diffidence, I repudiate their decision, and shall proceed to examine into the validity and force of the assumed facts laid down by Dr. Flint to establish the truth of the theory that pneumonia is *primarily* an *essential fever*, and not an inflammation of the parenchyma of the lungs. He says: "First, acute lobar pneumonia is characterized by an enormous exudation into the pulmonary alveoli, and this exudation may be rapidly absorbed, leaving the tissues intact." This, in a general sense, can be accepted as true, but unless he did not mean, as to the quantity of the exudation, what the word "enormous" naturally conveys to the mind, and use the word "rapidly" as to time, I must seriously affirm that the statement is misleading and incorrect. The exudation into the alveoli of the lungs, by reason of their anatomical structure, cannot be "enormous," though every interstice be filled; neither can this exudate, when once effused, "be rapidly absorbed" by reason of its gelatinous character and the necessarily debilitated condition of the capillary veins and absorbents. Where the exudation is moderate, leaving much of the lung tissue non-infiltrated, it may be absorbed in from five to six days; but where large areas of the lungs are invaded and hepatized, convalescence and absorption are of necessity much slower and more protracted, requiring from ten days to two, or even three, weeks before repair is effected; but if the exudation into the alveoli of the lungs is "enormous," and "may be absorbed rapidly, leaving the tissues intact," this is without force or significance in the way of proof that "pneumonia is an essential fever," as I shall endeavor to show. In applying this assumed *fact*, Dr. Flint says: "This anatomical fact has no analogy in local disease" (inflammation, I suppose, is meant). I affirm, from a long experience and close observation, that this "anatomical fact," viz., "exudation" in the affected tissues, has its analogue in every local inflammation without exception, from an anthrax or paronychia to a frost-bite, the exudate being modified as to character and quantity by attending conditions and the anatomical character of the tissues affected. It is an invariable concomitant of local inflammation, characterized by engorgement, tumefaction, and pain, the latter, I suppose, resulting in part, at least, from the pressure of the exudation upon the nerve fibrillæ of the part affected; and hence this "anatomical fact" is characteristic of local inflammation and not of "essential fever."

"Second—Acute lobar pneumonia never persists and becomes a chronic affection." In Dr. Flint's experience and that of those who agreed with him, this may be so, but in my experience the statement is not correct. Such a result is not frequently the case, I cheerfully admit, yet I have witnessed in the course of my professional career several cases of pneumonia persisting and running into a chronic character. Notably has this occurred in my own person; and this case was so marked and so significant as regards the point at issue that I will narrate its history. In the winter of 1842 and 1843 I had an attack of pneumonia, affecting both lungs (the right lung the more severely), characterized by all the prominent and distinguishing symptoms of the disease. In the space of three weeks I was able to be up and out of doors, but, from premature exposure and attention to professional calls, the reparative process was arrested, and I began to retrograde. Cough and expectoration returned, attended with a heavy aching pain in the region of the right lung. Emaciation ensued, and for years I suffered greatly, though never confined to my bed. At the time of my attack I was between twenty-nine and thirty years of age. In 1846 I visited New Orleans and consulted Dr. Warren Stone, who diagnosed my case as pulmonary tuberculosis, and thought that I could not survive six months. That same year I moved to Louisiana for the benefit of its mild and genial climate, and located in St. Mary Parish, a little southwest of New Orleans. By care and appropriate medication I was enabled to attend to the duties of my profession in a fairly satisfactory manner, and I gradually improved in health; but it was fully twelve years before my right lung regained its normal condition. I am well convinced, from my sensations and a careful study of my symptoms at the time, that there were several cavities formed in my right lung by the breaking down of hepatized portions, limited to small areas by fibrinous bands; for at one time, during a space of several months, I had regular evening hectic excitements, attended with a copious purulent expectoration, of a bad odor and mawkish taste, and that sank in water. Especially was the latter true of the portions expectorated in the morning.

That my case was chronic pneumonia, and not tuberculosis, I think is certain, from the fact that tuberculosis developed from pneumonia could hardly be protracted through a period of twelve or more years and end in recovery. Besides, it was my good fortune, while still suffering from my lung trouble, to meet Dr. Flint in New Orleans during his residence in that city, and was introduced to him by my friend, Dr. E. D. Fenner. Dr. Flint very kindly carefully auscultated my chest, and assured me that I was free from tuberculosis. The sequel proves that he was correct, for I continued to improve, and by 1857 or 1858 my lung trouble had entirely ceased; since which time, with the exception of another very severe attack of pneumonia in March, 1881, I have enjoyed most excellent health. Although now nearly seventy-three years of age, I am hearty and still attending to an active and laborious practice. This one case, true beyond all question in every particular as to diagnosis, history, and result, completely disproves Dr. Flint's asseveration "that pneumonia never persists and runs into a chronic affection," and also serves to show how thoroughly misleading and opposed to the every-day experience of observing, thinking, and practical physicians in the rural districts may be the teachings and theories of the most learned and eminent men in the profession.

"Third. It is never referable to any appreciable local condition, nor is it possible, by any form of traumatic injury, to produce the affection." In reply, I submit respectfully that the first part of this assumed *fact* is ambiguous, and hence cannot be discussed; but the latter part can well be denied from the concurrent experience and testimony of able medical writers, and, theoretically, from the well-recognized *modus operandi* of irritants, chemical or mechanical, upon any part of the living animal organism, while it is evident that the vital lung tissue cannot possibly present an exception to this universal law of animal economy, "ubi irritatio, ibi fluxus."

"Fourth. Ordinary causes of local diseases (inflammation) are not capable of producing acute lobar pneumonia. The traditional belief that the affection may be produced by a cold is without foundation, and is being abandoned even by the Germans." The first part of this statement is already shown to be incorrect. The latter clause is equally, and at the same time more demonstrably, unfounded in fact. That cold is the most prominent, tangible, and constant cause of pneumonia is affirmed by the best medical authors, from Hippocrates down to the present day, and is in harmony with the experience of our most observing and practical physicians. It amounts almost to a self-evident proposition, and to reason on its correctness would be like reasoning to establish the incontrovertibility of a truism. I might give example after example, almost *ad infinitum*, where persons in perfect and robust health, after exposure to severe cold, to the chilling winds of a cold night, or to a cold rain, or after sitting when heated in a current of cold air, have been stricken down with pneumonia so promptly that the connection between the exposure to cold as a cause and pneumonia as the effect was overwhelming and indisputable. "The traditional belief that pneumonia may be produced by cold" is unshaken in the general and average medical mind, even if it be true, which is far from being proven, that the belief is "being abandoned even by the Germans."

"Fifth. That a special or specific influence is invariably the cause of acute lobar pneumonia is rendered probable by its occurrence at certain seasons, greater frequency in certain climates, and occurrence at times as an epidemic disease." Now, with all due deference to Dr. Flint's medical acumen, his long and reputable experience as a medical practitioner, and his deservedly high character as a medical author, I cannot refrain from expressing the opinion that the reasons he has given in the above quotation to prove the truth of his startling and pet theory that pneumonia is an essential or specific fever, and the result of a specific germ, are weak and inconclusive, to say the least; for it is simply saying what may be as truthfully affirmed of almost every known disease. But one fact alone in the history of pneumonia—viz., its known prevalence in cold countries, and in the extreme cold and variable spells of winter weather—such weather as is at least unfavorable to, if not destructive of, germ life—should certainly demonstrate to reasonable minds that this disease is not caused by any specific germ, either vegetable or animal, or, at all events, that such an origin is highly improbable. Then, again, it is equally well known to all medical observers that pneumonia is not a disease of the summer; that during the summer months, when the weather is warm for protracted periods, whether dry or rainy, pneumonia seldom or never occurs, although this is the period of the year when conditions always prevail favorable to the generation and activity of every known form of germ life. But perhaps the imaginary micro-organism referred to by Dr. Flint, the pneumonia coccus that is supposed to produce pneumonia, is a variety of germ life of Arctic origin, flourishing only in cold, wet weather, and takes the inhospitable winter season to enter human lungs, in order to develop an "essential fever" with an explosive demonstration in the home of its refuge.

"Sixth. It differs from acute primary local inflammation in that at the outset there is a pronounced chill." It is very strange indeed if, with Dr.

Flint's long experience in the practice of medicine, he has seen no acute local inflammations ushered in with a chill. In my experience it is a common thing—I might say almost universal—and especially so with local inflammations of any gravity, or affecting important organs or tissues. If we consider carefully the history of pneumonia, its prominent and characteristic symptoms during the progress of the disease, and the pathological changes found in the lungs after death, we will be forced to the conclusion that it differs from other local inflammations only by reason of the peculiar structure and composition of the organs in which it has its seat, and their physiological importance in the organic and vital functional processes necessary to the continuance of health and life. If, then, a "pronounced chill" ushers in an attack of pneumonia, which is certainly the fact in nearly every case, it is no evidence whatever that the hypothetical "pneumo-coccus" has entered the circulation and set up its specific systematic fever, but simply that some depressing or irritant agent has infringed upon the nervous filaments and vascular capillaries of the lungs, arresting the capillary circulation, impeding their normal function, and resulting in general nervous shock and vascular congestion of the thoracic and abdominal viscera. The "pronounced chill," therefore, has no bearing at all upon the etiology of the disease, but simply indicates that the organ affected is one highly organized, abounding in nerves and blood-vessels, and whose normal functional activities are essential and paramount in the preservation of health and the continuance of life. And it is natural and rational, when such vital and important organs are morbidly or rudely assailed, either by cold or mechanical or chemical irritants, to witness a severe shock and revulsion, succeeded by a general or systemic excitement and fever, demonstrative of the severe local disturbance within the organ affected.

I have endeavored to follow up Dr. Flint's line of thought, and impartially examine the nature and force of what he calls "facts," upon which is based the theory that pneumonia is produced by a micro-organism, and is an essential or specific fever, and not primarily an inflammation of the lungs. To my mind his assumed facts are wanting in force or validity, and his reasoning to prove the truth of the theory fallacious and deceptive, and therefore misleading to the average medical mind, the mind that does not observe and think and reason for itself. The remarks of Drs. Flint, Didama, Ross, and Janeway in this notable discussion impress me as being a labored effort to hunt up reasons to prove the truth of a preconceived and speculative theory. Indeed, Dr. Janeway, while expressing his belief in the pneumo-coccus as the causative agent of this disease, referring to the labors of Klebs, Eberth, Leyman, and Friedlander as ground of his belief, was candid enough to state the fact that Dr. Sternberg "had recently claimed that the pneumonia coccus of Friedlander is identical, specifically, with a micro-organism previously described by himself, which is commonly found in normal human saliva."

No wonder that medical theories are so notoriously unstable and ever changing, when learned and leading members of the profession can undertake to base a new theory and bolster it up upon such recent and unreliable discoveries as Klebs, Eberth, and others claim to have made in their researches in regard to the pneumonia coccus.

I do not wish it to be understood that because I enter my protest against the theory of Dr. Flint and his co-believers as to the causative agent and nature of pneumonia, I discard *in toto* the science of bacteriology; for this is not true. While I cannot agree with Dr. H. O. Marcy "that the germ theory of disease has passed from the realm of theory into that of demonstration of fact," yet it is highly plausible and attractive to the studious and inquiring mind by reason of the fact that its mission is to place medicine upon an impregnable scientific basis. But we must remember that it is only, as it were, the infant of yesterday, and that its progress to maturity and vigorous manhood needs the essential of time, and must be attained by oft-repeated experiments of trained and qualified workers in that inviting but difficult field of medical research. In the near future I doubt not that great facts will be brought to light from this source, revealing with unerring scientific certainty the true etiology of many diseases whose origin is now obscure and uncertain. But up to the present time there are too many uncertainties, fallacies, differences of opinion, and contradictions as to the nature and import of the micro-organisms discovered to command our ready and implicit credence in the truth of every new discovery. It is only to a few specific diseases that we are justified in affixing with confidence our belief in the pathogenic efficiency of micro-organisms.

In writing this article, I have purposely confined my remarks to the consideration of the cause and the nature of pneumonia, the points about which the great teacher and author, Dr. Flint, is, I believe, in error. That such is the case I hope I have made apparent to every medical man who may read this communication.

Much might be written in relation to this dangerous disease, especially as to the character of the inflammation, its morbid products, its initial location, and the pathological changes wrought in the structure of the lungs, as well as the rational and most efficacious therapeusis based upon a correct comprehension of these conditions; but I have said quite enough in one article. Should time and health permit, I may on some other occasion take up this subject and give my views and experience on the points alluded to.

ARTICLE IV.

ON TUNNELLING THE LARGE PROSTATE.—By REGINALD HARRISON, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in the Victoria University.

The operation of tunnelling the enlarged prostate from the perineum which I introduced nearly five years ago has been so favorably received in this country and in America, as a means of relieving the more urgent symptoms sometimes attending this complaint, as well as of permanently reducing the size of the gland, that I am induced again to draw attention to this treatment and to notice some modifications which tend to simplify the performance of the operation. As it may be regarded as the only treatment which hitherto has been immediately followed by atrophy or shrinking of the large gland and the complete recovery of the patient, it is important that its value should be tested by others who have not yet had the opportunity of doing so. Of the various authors who have referred to this proceeding I would quote the following remarks from the writings of the late Dr. Gross, of Philadelphia: "My conviction is that this operation is destined to come into general use in this class of cases, of such frequent occurrence in advanced life, and a source of much suffering."*

The operation consists in puncturing the bladder with a special trocar and cannula made for this purpose for me by Messrs. Tiemann, of New York, one inch in front of the anus. The trocar is made to pass through the large prostate at a lower level than that of the normal canal, the object being to make a "low-level" urethra, and thus to favor a thorough drainage of the viscus. Where the bladder is largely distended with urine the process is simple enough; when this is not the case, and the operation is undertaken with another object, I advise the following procedure: The patient being placed in the lithotomy position under an anæsthetic, a catheter is passed and the bladder distended with tepid water; the beak of the catheter should then be reversed so as to lie in the dip above the large gland. A temporary ligature being placed around the penis and the escape of any fluid through the catheter being prevented, the trocar is then plunged from the perineum into the distended viscus; as the point of the trocar enters the bladder it will be found to strike against the end of the catheter, towards which it should be directed.

A few words in reference to the instrument: The trocar is hollow, with an opening by the side of the point. Immediately the instrument penetrates the prostate fluid escapes at the handle. The trocar is then withdrawn, and the cannula left behind. The latter is fitted with a movable collar, perforated at the sides for fixing with a T bandage. The collar is movable, so that by means of a screw it can be nicely adapted to the thickness of the tissues through which the cannula may have to pass, as it is undesirable to have too much of the tube projecting into the bladder cavity. The cannula being thus adjusted and fixed with an ordinary perineal bandage, a piece of tubing is attached to the end of it, by means of which urine is conducted to a vessel by the patient's bedside. After a few days in bed the patient gets up, and then tucks the end of his tube into a belt round his waist. A pair of bulldog forceps will be found to act as a convenient compressor. When the patient requires to pass water, all he has to do is to take off the compressor, and let the tubing fall between his legs; urine thus flows by gravity, and without any expulsive effort on the part of the patient. After six, eight, or ten weeks wear, according to circumstances, the patient will now and then be conscious that slight gushes of urine along the natural passage will involuntarily take place. Like as when urine passes along the uretha for the first time after lithotomy, I have known its first occurrence, after prostate puncture, followed by slight indications of reflex action, in the form of a rigor, and some elevation in temperature. Where these involuntary gushes take place they may be regarded as indications that the gland has undergone such an amount of atrophy as to cause the urine to prefer the natural to the artificial channel for its exit. The cannula can then be removed, when this wound speedily closes. One benefit the patient derives from catheterism being unnecessary, the easy way the bladder is washed out, the non-confinement to bed, and undisturbed repose, is obvious.

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*System of Surgery, 6th Ed., 1882.

It is interesting to observe, in connection with this subject, how it sometimes happens in cases of large prostates where catheterism has been found impracticable, and it has been necessary to empty the bladder by the repeated use of the aspirator for considerable periods of time, that both micturition and catheterism may again become permanently passive, circumstances which seem to point to some diminution of the size of the gland having, in the interval, taken place. In conclusion, I would urge the adoption of tunnelling the prostate from the perineum as the best method of tapping the bladder in all cases of emergency where retention of urine from an enlarged prostate occurs and catheterism is found to be impossible; and, secondly, this operation may be undertaken with the view of inducing atrophy of the gland in cases where the functions of the bladder are so disturbed as to render life almost unbearable. In the observation of a considerable number of cases of difficult catheterism and large prostates, I have often thought that, in some instances, far less damage would have been done, and the patient's chances improved, had the practitioner, on recognizing his difficulty, used a trocar in a suitable position, rather than persevered with the catheter.

ARTICLE V.

Safe, Simple, and Effective Mode of Treating Prolapse of the Rectum and Hemorrhoidal Tumors. By Q. C. Smith, M. D., Austin, Texas.

By the method here proposed I have treated three cases of prolapse of the rectum and about a dozen cases of hemorrhoidal tumors.

The cases of prolapse of the rectum were all the result of parturition, and two of them were, or appeared to be, complete, *i. e.*, all the coats of the bowels had passed out through the external sphincter.

These cases of rectal prolapse and hemorrhoidal tumors were treated by injecting into the tissues with the hypodermic syringe an eight-grain solution of muriate of cocaine, plus an equal volume of phenol sodique.

The quantity of this solution injected varied from twenty minims, in small hemorrhoidal tumors, to one ounce in prolapsed rectum.

One injection was sufficient to cure hemorrhoidal tumors in all my cases, while two to four trials were found necessary to cure prolapsed rectum. The syringe point was introduced at the most prominent point of the tumors—large or small—and thrust boldly to the most vascular part of their base, and a liberal portion of the solution deposited, according to the size of the tumor. Then the balance of the tumor was well saturated with the solution. After injecting hemorrhoids no topical treatment was applied except a daily wash of dilute solution of boric acid, as hot as could be borne. After injecting prolapsed rectum a mild antiseptic healing salve was kept applied. The following formula was found very efficient:

℞ Iodoform, in *fine* powder.
Balsam Peru.
Oil of camphor.
Oil of sassafras, āā ʒss.
Pine tar.
Castor oil.
Powdered aloes, āā ʒj.
Subnitrate of bismuth enough to make a stiff salve.
S. Apply thoroughly twice a day, and cover with a soft cloth.

Before applying the salve each time the parts were well washed with the syringe, soap suds from Packer's tar soap, as hot as could be borne, being employed for the purpose.

In addition to whatever general internal treatment may be indicated in any given case, I am in the habit of directing, with excellent results, something like the following:

℞ Fl. ext. witch-hazel, ℥ss.
Sat. tinct. horse-chestnut, ʒj.
Muriate of ammonia, ʒj.
Glycerine ad ℥iv. M. ft. sol.
S. A teaspoonful three times a day, just after meals, on alternate days.

℞ Muriate of hydrastin, gr. xxiv.
Ergotin, gr. xii.
Ext. capsicum.
Ext. ipecac.
Aloin āā, gr. vi.
M. make 24 pills and silver coat.
S. One pill three times a day, just after meals, on alternate days.

These last two prescriptions should be administered regularly, on alternate days, as long as the hemorrhoids or prolapse give trouble, and for several weeks after they have ceased to do so.

For bringing hemorrhoidal tumors to view, O'Neal's rectal speculum was found most convenient, though in some cases Woodward's and Sims' rectal speculums served a good purpose. After operation on hemorrhoids patients were allowed to attend to their ordinary business at pleasure, and a majority of them did so.

The cases of prolapsed rectum were confined to bed until cured, which was in the mildest cases about two weeks, and in the two severe or complete cases about four weeks. They were then allowed to move gently about the room, but the patients being parturients, the horizontal posture and quietude were doubly indicated. No general anæsthetic was found necessary in any of these cases, as the operations produced but little pain or subsequent soreness. No inflammatory reaction followed the injections.

I have used various medicaments for injecting hemorrhoids, all with more or less success, never having met with any deplorable results; but the eight-grain muriate cocaine solution. in connection with an equal volume of French-made phenol sodique, has proved the best that I have tried.

In conclusion, the writer begs to state that he is familiar with what has been published in reference to this subject in standard and periodical literature for the last twenty years, and hence claims no originality in the treatment outlined in this communication.

ORIGINAL TRANSLATIONS.

Treatment of Suppuration of the Mastoid Cells without Trephining. By Dr. Loewenberg. Translated from *L'Union Médicale*, by H. McS. Gamble, M.D., Moorefield, West Va.

[*Concluded from page* 166.]

The constant presence of microbes in the pus of otorrhœa is easily understood if we consider that of all the parts habitually in contact with the atmosphere, "no one presents, to the same degree as the auditory canal, to the organic germs carried by the air conditions favorable to their development, a quiet shelter where they may fix themselves and pullulate, and a temperature propitious to their multiplication. In this long and tortuous canal the ordinary manœuvres of the toilet succeed so much the less in cleansing its whole extent as that every contact with the walls of the osseous parts provokes a somewhat painful sensation." Besides that, the germs find in the auditory canal an excellent place of retreat, and a temperature very favorable to their multiplication. They receive, at the same time, in abundance the oxygen of the atmospheric air. But when the fluid secreted and accumulated in the drum, in consequence of an otitis media, can no longer escape by the natural route—the tube of Eustache—obliterated by the swelling of its walls, it creates an issue outwards by breaking through the membrane of the tympanum. At this moment it immediately meets with a stock of microbes accumulated in the bottom of the meatus, and among them ordinarily, to a certainty, some germs capable of provoking and keeping up suppuration.

I believe that I have found therein the explanation of a fact which has remained obscure thus far, and which is this: Acute otitis media produces purulent secretion and prolonged suppuration infinitely more frequently than analogous inflammations in the greater part of the other regions of the body. This fact, altogether common, is generally admitted as the most natural thing in the world, without reflecting upon its real singularity; so we find, I think, the key of this mystery in the fact which I have just mentioned—that the auditory canal realizes in a manner, so to speak ideal, the conditions favorable to the provocation and support of suppuration in the drum as soon as the communication between it and the meatus comes to be established.

The penetration of the germs into the drum and their pullulation within this cavity itself, with formation of zooglœa, have been demonstrated by myself, but this is not all; and these germs certainly extend also as far as the depth of the mastoid cavities, which, even in simple suppurative otitis media, almost always contain pus. Let us remember, in this connection, that in otorrhœa the internal covering of the mastoid cavities—of the antrum especially—always presents pathological changes, generally identical with those of the mucous membrane of the drum. Besides, whilst in the latter there exist conditions favorable to a radical cure, the peculiar conformation of the mastoid cavities rather hinders the elimination of the accumulated products and the regression of the inflammatory process, which is propagated even readily to the osseous substance.

As to the presence of microbes in the cellular spaces of the apophysis, I added in my paper presented to the Institute, after having shown the presence of the cocci in the otorrhœic fluid: "If we consider that in the immense majority of cases (of auricular discharges) the pus proceeds from the depths of the drum of the tympanum, and even of the mastoid apophysis, the importance of this observation will escape no one." I add that the microbic origin of the complications on the part of the mastoid apophysis appears to me corroborated by the fact that the latter, above all, aggravate cases of otorrhœa of long standing with pronounced fœtidness of the pus, and, consequently, abundant pullulation of micro-organisms.

If the fact that otorrhœa is sometimes complicated with disorders of the mastoid apophysis of the sinuses adjacent to the tympanic cavity, and of other parts near to the latter, may be strictly attributed to the extension, little by little, of the inflammation of the drum, without the necessity of invoking the intervention of microbes, per contra, the same pathological mechanism could not be admitted to explain the origin of certain other *affections sometimes complicating suppurative otitis media, but striking organs situated at a distance from the affected cavity.* Thus we see sometimes engrafted upon this affection thrombosis of the sinuses, separated from the diseased petrous bone by tissues remaining sound, or even cerebral abscesses developed with an intact encephalic cortex. The pathogenic link which connects these complications with the primary affection has absolutely escaped our notice up to the present time. It could not be found by means of the current hypothesis that the inflammation might have been propagated insidiously, so to speak, along the tracts of the connective tissue or blood vessels, for it has met with constant denials at the time of the necropsies, which have demonstrated the absence of all change in the intermediary parts.*

The parasitological researches, the results of which I have just exposed, have demonstrated, I think, the relation of these facts involved in obscurity up to the present time. The propagation of the inflammatory and pyogenic process to distant parts is effected, according to my views, by *the transportation of the microbes, the presence of which I have invariably observed in otorrhœic pus, and which are carried a long way by the migratory cells* (*Wanderzellen*), into which they so commonly penetrate. This hypothesis, which I expressed in 1881, and which seemed perhaps very bold at the time I formulated it, will certainly find few who are incredulous at the present moment, the frequency of analogous facts being admitted in consequence of a large number of microbiological works. As to the most frequent localizations at a distance, it remains to us to discover by virtue of what special conditions, anatomical or physiological, the pyogenic process is established precisely in certain regions, as, for example, in the encephalon. As far as concerns general disorders, which sometimes terminate suppurative mastoiditis in such a fatal manner, the entrance of the microbes into the circulatory torrent would explain their mechanism.

The facts which I have just briefly set forth, above all the constant presence of micrococci in otorrhœa, have logically led me to oppose an antiparasitic treatment under the form of a rigorous antisepsy to suppurative mastoid inflammations, engrafted upon otitis media. The treatment which I employ for this purpose, combined with tympanotomy, comprises *several points*, of which some are new. In the case which I am going to describe further on I have employed the *following therapeutic ensemble:* Vigorous cleansing injections, varying in frequency according to the abundance of the discharge or the greater or less viscosity of the matters. Employment for these injections of a warm solution of corrosive sublimate very much diluted with water or of boracic acid to saturation. Immediately after this cleansing, insufflation of impalpable powder of boracic acid or instillation of the supersaturated solution of boracic acid in absolute alcohol, the use of which I have proposed against otorrhœa in my work mentioned above, and which I have had the satisfaction of seeing adopted by eminent confrères. This is the manner in which I prescribe this solution (or rather mixture):

℞. Absolute alcohol (or 98°)...................	100 grammes.
Boracic acid in impalpable power.............	20 grammes.

Shake before using.

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* The persistence of this hypothesis, in spite of the contrary results of autopsies, is a striking example of the tenacity with which affirmations void of all proof, but taught as if they were demonstrated facts, take root in the minds of some persons—a circumstance which certainly greatly retards the progress of medicine. This latter is due, above all, to the independent and original minds, which demand to know the foundation of the "axioms" transmitted by medical education, and which, by a vigorous effort, emancipate themselves from the baggage of the school.

The alcohol at the ordinary temperature only dissolving from 3 to 4 per cent. of boracic acid, the excess of this latter substance forms a deposit, and it is necessary to shake the bottle at the moment of the instillation, in order to mix the two substances. Contrary to the general rule of not introducing any cold fluid into the deep parts of the auditory canal, under penalty of provoking painful sensations and even inflammation, one may employ this mixture at the temperature of the room, alcohol being, to my knowledge, the only substance which the ear will bear in this manner.

In the cases which occupy us here the tympanum is always perforated naturally or artificially, and the object of the instillation is to bring the fluid in contact with the walls of the drum, and even of the mastoid cavities. The sensibility of these parts varies according to the individual; it is, then, prudent to commence by diluting the mixture with an equal volume of water in order to test the sensibility of the patient. But it is necessary to hasten to increase, in the following applications, the concentration of the medicament, and to pass on as quickly as possible to the use of boricated alcohol undiluted with water, which the patient bears, in general, after the lapse of a little time. I insist upon these details, having seen by the publications of several English and American confrères who have adopted my method, that they make use of alcohol too dilute to obtain the effect which this medication is capable of giving. (See in this regard more especially case No. 4.)

It is necessary that at the time of the instillation the head of the patient should rest upon the sound side, and that he should keep the liquid in this position for at least ten minutes. The canal should be filled entirely in order to be able to use the largest amount possible of the active substance.

As to the choice of the two remedies which are found associated in this medication, this is how I stated it in my work: "Familiarized for a long time with the excellent action of alcohol, the use of which I introduced in the treatment of purulent otitis media towards 1867, I formerly explained its great modifying power in regard to the mucous membrane of the drum by the dehydration and by the coagulation of the albuminoid fluids impregnating the cells. I now attribute a therapeutic action not less powerful to the remarkable antiseptic power of the alcohol." I believe it infinitely more energetic than would appear from experiments in vitro, but I am obliged, in order to avoid giving too great a length to this memoir, to refer the reader to the views which I have presented upon this subject in my work on ozœna.*

What I have said (loc. cit.) concerning boracic acid might be repeated here, as to this substance, and would apply equally to alcohol. I will only add that it seems to result from certain publications that one has experimented upon the microbicide action of this remedy in *open* vases, without taking account of its volatility or of its affinity for water, by virtue of which its concentration rapidly diminishes under these conditions, as well as its antiparasitic power. These experiments would then by no means be demonstrative as to the antiseptic action of alcohol.

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* Union Médicale, 1884.

If the liquid form of the medicament that I recommend facilitates its penetration, according to the laws of gravity, into the drum, and even into a more or less extended part of the anfractuosities of the mastoid apophysis, the simultaneous presence of the deposit of an excessively fine solid substance assures a permanent contact with the diseased surfaces to which I attribute the greatest importance. The mixture being poured into the ear, the powder of boracic acid, momentarily suspended in the liquid by a previous shaking of the mixture, is deposited very soon upon the most dependent part, consequently, in the position prescribed above, upon the membrane of the tympanum, and through its perforation, along the walls of the drum, and more or less, also, of its annexes. It thus constitutes a reserve of antiseptic material, acting in proportion as the secreted muco-pus dissolves it, a point which I consider so much the more capital because the alcohol, as I have indicated above, becomes rapidly weak, by reason of volatilization and hydration, and its action is only transient, whilst the boracic acid, deposited in powder, is slowly dissolved in the secreted fluids, and thus develops a continuous antiseptic action.

After the rapid review of the therapeutical principles adopted by myself in the treatment of suppurative mastoid inflammations—principles which will receive a special development at the end of this work—I will place before the eyes of the reader the histories of a few of my cases, in order to show the application, in practice, of this therapeutical view, as well as its results. In perusing them, we will likewise take notice of the modifications of the treatment necessitated by the peculiar nature of the different cases.

Of the large number of those in which the simple enlargement of a perforation of the tympanum already existing, or the establishment of a second opening below a primary one located too high, sufficed to effect a cure, I will relate in detail only the following, which has seemed to me the most remarkable:

Case I.—Upon the eve of starting to the International Medical Congress of London, I was called, the 30th of July, 1881, to Étretat (Seine-Inférieure) to see M. de X——, aged seventy years, realizing truly the type of the *gravis annis miles, multo jam fractus membra labore*, of Horace. Since his youth the patient had suffered with otorrhœa of the left ear, which, once the initial stadium passed, had given rise to no further symptom of irritation.

Five weeks ago an inflammation of the most painful kind declared itself in the mastoid apophysis of the diseased ear; from that moment the patient has not ceased to experience the most atrocious sufferings in this region, which have not allowed him a single moment either of rest or sleep. A prey to an almost continuous fever, the old man has grown rapidly weak, according to the statement of the family. The treatment consisted of injections of decoctions of marshmallow, cataplasms, and instillations of phenicated glycerine.

Examination of the patient.—Old man very feeble. Fever intense. The diseased ear stands out from the temporal plane at a greater angle than the other, a characteristic symptom, and one which proceeds from the infiltration of the integuments behind the auricular pavilion. In the region of the mastoid apophysis a lively redness and enormous tumefaction. All this region is very hard to the touch, and excessively painful to the least pressure. Membrane of the tympanum red and thickened. Behind the handle of the malleus, and *altogether above, a perforation a little larger than a grain of millet.* Somewhat scanty discharge of pus. The insufflation of air through the Eustachian tube causes thick purulent masses to pass through the perforation. After *having removed them by means of an injection, a new insufflation gives rise to a new discharge, and this is repeated as often as these two alternate manipulations are practiced.* I call attention particularly to this phenomenon, which proves to my mind that there is a superabundant secretion—that is to say, finding only an insufficient issue, a phenomenon which I have designated above as "relative retention."

In the case of M. de X—— in particular, the pus evidently was formed more rapidly and more abundantly than it could, in the ratio of its formation, escape though the little opening, which seemed to me both too limited and too highly situated.

Whence the necessity of intervening actively to assist nature became evident. The duration of my sojourn being, unfortunately, extremely restricted, I could not think of performing the operation of trepanning, an operation too grave to allow me to abandon the patient; for, as M. Schwartze rightly says, the cares consecutive to the opening of the mastoid apophysis should be intrusted only to a surgeon especially experienced in otology. On the other hand, it was absolutely necessary to attempt something for the relief of the exhausted old man, whose sufferings were atrocious and whose condition was extremely disquieting.

Having recognized the necessity of establishing a sufficient outlet for the pus and facilitating the access of remedies to the diseased cavities, I decided to lay the membrane of the tympanum widely open, an operation of the simplest kind, and absolutely free from all risk. I divided this partition from top to bottom, embracing the perforation in a slightly curved incision. A flood of pus escaped immediately. Following this there was a little relief, and in a letter dated August 4 the patient announced to me that "from the day after the operation he had experienced a relative improvement, which had procured him some rest and a little sleep."

Immediately after having practiced the incision, I prescribed the following treatment: Frequent, vigorous, and abundant injections of a saturated solution of boracic acid in warm water, insufflations of an impalpable powder of the same substance, and air douches after the method of Politzer. The patient thus described the effect of these measures: "Ever since the day of the operation my condition has gone on improving. The swelling behind the ear is inclined to diminish every day; the shooting pains in the ear have disappeared. The discharge of pus takes place easily, and is always quite copious, but it seems to me that it is inclined to diminish. To sum up, there is less pain, more quiet, and better nights."

The continuation of the same treatment, intrusted to the care of Dr. Fidelin of Étretat, has so completely cured the disease of the mastoid apophysis that the patient asked my permission to be present, the 3d of the following September, at the opening of the hunt.

Since that time no symptom of irritation has reappeared up to the present moment (July, 1885). The discharge, dating from the youth of the patient, *per contra*, shows itself refractory to the treatment by alcohol, which here gives no curative effect. M. de X—— does not even bear this remedy when extremely diluted. This fact constitutes an exception almost unique in my practice; alcohol being, if not the only active remedy in otorrhœa, at least the most generally useful of all fluids, and, above all, the best tolerated by the diseased organ. We succeeded, in the case of this patient, in diminishing the discharge only by means of insufflations of boracic acid in fine powder.

Reflections.—At the moment in which I saw M. de X—— for the first time, his case assuredly presented sufficient gravity to indicate, in conformity to the prevailing views, immediate trepanning of the apophysis. The pains and the tumefaction were excessive, and had continued for five weeks. There was, besides, an intense fever, and the patient—septuagenarian, be it remembered—was exhausted. But competent authors consider trepanning as absolutely necessary when they find themselves in the presence of the following symptoms: Retention of pus in the middle ear, fever and headache, even when there is no external change in the apophysis.

Case II.—I shall only briefly outline the history of another case presenting great analogy with the preceding. I have succeeded in curing another old man, sixty-nine years of age, by the establishment of a counter-opening at the lower part of the tympanum (already spontaneously perforated above and behind the handle of the malleus), and by the subsequent treatment with a saturated solution of boracic acid in alcohol. This patient, to whom I was called the 10th of April, 1884, by my distinguished confrère, Dr. Charles Loiseau (of Paris), presented mastoid troubles of a prolonged and extremely disquieting character, accompanied by intolerable and continuous pains, which prevented sleep in an absolute manner. The artificial perforation closed up rapidly, and it was necessary to re-establish it twice.

The 5th of June following, complete cure. The two perforations, natural and artificial, are cicatrized; the tympanum is sound and shining, and the hearing is absolutely normal. This last result is so much the more valuable because the patient has been for a long time entirely deaf in the other ear. The cure has persisted up to the present time.

Case III.—M. X——, about thirty years of age, tall, blonde, and well muscled, but pale and of a lymphatic appearance, presented himself at my consultation rooms for the first time on the 8th of January, 1883. Since the age of six years he has been subject to a discharge from the right ear, the frequently repeated mastoid complications of which have embittered the existence of the unfortunate patient. He has had for long years paroxysms of frightful pains, returning almost every month, and resulting from inflammatory exacerbations in the region of the right mastoid apophysis; in short, life has become insupportable. The patient tells me that he has been subjected to treatments of all kinds, and *that he has even been trepanned three times!*

Upon inspection, we find upon the mastoid apophysis the opening of a fistulous canal, into which a fine whalebone sound enters to a great depth. A second fistule opens at the posterior and superior part of the bony canal of the ear, but its external orifice is concealed by polypoid vegetations. The walls of this canal are swollen to such a degree as to admit of the inspection of only a small portion of the bottom of the meatus. The tympanum is found almost entirely destroyed. Discharge of fetid pus through the conduit and the two fistulous openings. This fluid, examined with an excellent homogeneous immersion system, 1-18 Hartnock and Prazmowski, presents many very fine micrococci and a few small bacteria.

Treatment.—Destruction of the polypoid vegetations by means of the galvano-cautery with lateral action, which I had contrived in the first place for the nasal fossæ and the tonsils, and the form of which is likewise very convenient for destroying vegetations or polypes implanted upon the walls of the auditory canal, and consequently situated laterally. Injections of a weak solution of sublimate into the external fistule. Instillations of absolute alcohol, saturated with boracic acid, into the conduit. Air douches after the method of Politzer. The employment of this excellent method of treatment presents in M. X—— an inconvenience met with in many persons who have but one diseased ear, and renders the use of this procedure extremely painful, sometimes even impossible. Each insufflation causes the violent entrance of air into the sound ear, although care may be taken to close the auditory canal with the finger. Like many patients in whom this fact obtains, M. X—— fears the quite painful shocks produced by this rush into the sound ear, but he is tormented far more still by the dread lest they determine an irritation therein. In order to obviate this inconvenience, which for twenty years one has striven vainly to eliminate, I have devised a new procedure based upon the effect of a second gaseous current acting upon the external surface of the sound tympanum at the same moment in which the air blown in by the nose strikes the internal surface of the membrane (see my fourth communication to the International Otological Congress of Basle). The two simultaneous shocks tend to displace the membrane of the tympanum in opposite directions, and all concussion is avoided. Insufflation thus performed becomes then, in fact, unilateral—in other words, its effect remains confined to the diseased ear. The use of this procedure applied in the case now under consideration allows M. X—— to make use of the air-bag without fear or danger.

After a few months of this combined treatment, the cure is complete. The pains, as well as the secretion, have disappeared, and the auditory canal is free. The two fistulous passages are cicatrized; their orifices remain closed. At the seat of the perforation of the tympanum a cicatrized tissue has been formed.

Even the hearing, which had been extinct for twenty-four years, has returned—in a feeble degree, it is true. My watch, of which a sound ear perceives the ticking at about one metre fifty, is heard at a few centimetres' distance. The general health of M. X——, seriously shaken by twenty-four years of suffering, has improved in a surprising manner—as likewise his morale, which had been gravely affected by the same cause—and the patient is happy and thankful.

The cure, confirmed about the month of March, 1883, is maintained to the present hour.

This case is so much the more interesting in that the therapeutics, in conformity with the principles established in this article, prevailed over an affection of the gravest character, and which had resisted every other mode of treatment for nearly a quarter of a century, even the operation of trepanning thrice repeated!

Case IV.—M. H—— was brought to me for the first time in 1873, being then thirteen years of age. Neither the general health of the young patient nor that of his progenitors presents anything peculiar. M. H—— became gradually deaf in the *right ear* at a time when he suffered frequently with disease of the throat. Hearing upon this side—speech, 0; watch, 0. Different diapasons (ut 3, mi 3, sol 3, and ut 4), even when supplied with their résonnateurs, are heard but slightly. Tympanum slightly thickened.

In the *left ear* there is deafness and discharge, consecutive to an otitis media which the patient contracted several months before.

After having treated young H—— for some time, I lost sight of him, and did not see him again until ten years afterwards, the 25th of April, 1883, when I was called to see him for a very painful affection of the *left ear*. In a letter which the mother of the young man, an extremely intelligent woman, has kindly written for me, she describes the beginning of this inflammation in the following manner:

"April 5, 1883, dimness, giddiness, vertigo; this condition growing more marked up to the 10th, when it became continuous. Loss of equilibrium more noticeable in the open air; painful digestion, gastric embarrassment characteristic. Frequent attacks of nausea, absolute loss of appetite. April 16, blister to the pit of the stomach, followed by no result. The 17th, first buzzing and deep seated pains in the left ear. Continual vertigo, causing nausea; vomiting for three days, after each meal. The 20th, acute disorders of the stomach and bowels lasting twelve hours. Arrest of pains in the ear. April 22, frequent fainting; disturbance of the whole left side of the head; suppression of the pains of the stomach and bowels. April 23, buzzing; engorgement of the whole left side of the head; enormous swelling behind the left ear; continued beating in the interior of the latter; acute pains in the same locality, becoming rapidly intolerable, and which extend from the middle of the forehead to the nucha. They are entirely limited to the left half of the head. All this part is very much swollen. Nothing further on the part of the stomach, which resumes its functions under an exclusive milk régime."

On the 25th of April, I saw the patient again for the first time for ten years, in consultation with Dr. Ch. Loiseau, the family physician. Examination reveals an enormous swelling in the region of the left mastoid apophysis, which is extremely sensitive to the least pressure. A discharge of fetid pus (which has continued thus, according to the account of the patient, for ten years) escapes through the auditory canal. The walls of this canal are swollen to such a degree as almost to efface its lumen. On account of this obstruction, it is impossible to see the membrane of the tympanum. It goes without saying that it is perforated; the purulent discharge demonstrates it, and, besides, one may assure oneself thereof by the *following procedure*, which I recommend above all to my compeers who are but little versed in the practice of otology. The head of the patient is inclined towards the sound side, and the canal of the ear to be examined is filled with an indifferent fluid—for example, with warm water containing one per cent. of salt. When, under these conditions, the method of Politzer is practiced, the air passes through the nose, the tube of Eustachius, the drum, and the perforation of the tympanum, and escapes violently under the form of bubbles, through the instilled liquid. This phenomenon proves the existence of an opening in the tympanic partition (Morpurgo). It is necessary to be careful to pour the liquid into the canal in such a manner as not to imprison air therein; otherwise the insufflation, in moving a sound tympanum and the superimposed column of water, might cause bubbles of air to escape and lead to the belief in the existence of a perforation which has no existence. We avoid this source of error by pouring the water slowly, not upon the opening of the auditory meatus, but into the concha of the pavilion.

The patient experiences acute pains, showing themselves under the form of exacerbations which last from six to eight hours, and yield with difficulty to subcutaneous injections of morphine. During these exacerbations, at which I have never been present, there were, in the first place, sharp pains in the left temple and ear, then continual *rotation* of *the head about its longitudinal axis*. At the time of the second relapse, which we shall consider further on, I was able to be present at the commencement of the paroxysm; there was then no rotary motion of the head, but, per contra, complete occlusion of the left eye by ptosis.

Treatment: Insufflations of boracic acid, finely pulverized, alternating with instillations of warm glycerine and injections of borocated water, incisions of the walls of the auditory canal with the bistoury, Politzer air douches. All this produced no result. After eight days of this treatment, I ordered instillations of absolute alcohol saturated with boracic acid. Contrary to my prescription, this mixture is at first employed excessively diluted by those about the patient, frightened at the idea of applying such an active substance to an inflamed and delicate surface; they are by so much the less decided to increase the concentration of the liquid, as that the first instillation (representing, perhaps, alcohol at 15 per cent.) is followed—certainly accidentally—by a frightful paroxysm. But as soon as, upon my insistance, they dare to seriously increase the strength of the alcohol, there is complete cessation of the discharge, of the pains, and of the swelling of the apophysis, and the walls of the canal. The bad odor is no longer perceived. Fifteen days later there is neither secretion nor suffering, and the general condition is normal.

The patient leaves a few months later for the country. According to his account, there was at one time a discharge of offensive odor. The *strong* alcohol with boracic acid is resumed, and at the end of forty-eight hours it is all over. Upon his return, I observe the existence of a perforation and the absence of all secretion.

In the month of July, 1884, there was a *second* and infinitely more grave *relapse*, accompanied by terrible paroxysms of pain in the left mastoid apophysis, which was excessively swollen. The pains radiate even into the occiput. A polypus is discovered at the bottom of the auditory meatus, coming from the drum and obstructing this canal. Enlightened by other cases and by the symptoms observed before in this patient, I decided to lay aside the whole usual antiphlogistic course, and to have immediately instilled, in the height of the inflammatory action, absolute alcohol supersaturated with boracic acid. The polyp is destroyed with the ordinary galvano-cautery—that is to say, burning at the end. The little tumor not being implanted upon one side of the canal, the use of a cautery with lateral action was here contra-indicated.

Relief was not slow to arrive, and the patient found himself in *statu quo ante* a few days later. Since that time I have caused him to employ the mixture in question from time to time, and there has been no further symptom of inflammation to this day.

This case demonstrates the possibility of removing disquieting encephalic symptoms by the re-establishment of the free discharge of the matters retained in the mastoid apophysis, and by the boricated alcohol treatment. It teaches us, besides, how necessary it is to institute these therapeutical measures at the first onset of the disease, without waiting upon the action of boracic acid alone, or of the usual emollient remedies.

RÉSUMÉ.

The preceding cases show the therapeutic measures adopted by myself and their results, which certainly leave nothing to be desired. In the other patients attacked by mastoid abscesses which I have likewise succeeded in curing without trepanning, the treatment and its results were analogous to those just described. I will not, therefore, add the history of any other cases, and will confine myself to the *following supplementary remarks:* With a few patients I have employed, besides the method described above, leeches *loco dolenti*, and, internally, those remedies necessitated by the state of the general health.

The second point which I desire to bring out is the following: In the numerous cases of mastoid inflammation which I have seen among *children*, the artificial perforation of the membrane of the tympanum still intact, or the enlargement of an opening already formed, have sufficed to arrest the progress of the disease, those cases excepted in which external abscesses existed already, communicating or not with the cavities of the apophysis, or even when there was caries or necrosis.

In reviewing now, under the form of conclusions, the principles which the results already set forth authorize me to recommend, I will not repeat all that has been said in that regard, and will leave aside those remedies of which I have had no need, or which I have tried without success, such as painting with tincture of iodine, incision of the integuments, as advised by Sir William Wilde, the external application of heat or cold, etc. To enter into these details would be to miss the aim of the present article, intended to make known the only procedure which has succeeded in my hands.

THERAPEUTICAL CONCLUSIONS.

Before having recourse, in the treatment of suppurative mastoid inflammation, to trepanning of the apophysis, which some are inclined to consider as the sole therapeutical measure possible in this affection, I advise following scrupulously and patiently the *following indications*, the execution of which has enabled me to avoid this operation, always dangerous, and sometimes impossible, because of the peculiar structure of the bone.

1. In order to procure the pus accumulated in the apophysis an easy escape through the drum and the auditory canal:

(*a*). To enlarge considerably the perforations of the tympanum when too small. In case the opening formed spontaneously is found located too high, to establish a second one lower down.

(*b*). To frequently practice insufflation of air through the tube of Eustachius.

(*c*). To cleanse the diseased cavities several times a day by means of vigorous and abundant auricular injections of water saturated with boracic acid or of corrosive sublimate in very weak solution.

(*d*.) To destroy vegetations or polypi, if any exist, in the canal or in the drum.

2. To institute *d'emblée* an energetic and rigorous antiseptic treatment. With this view, to reject the use of emollients (which would only bring excellent materials for the pullulation of the microbes always present), and to commence immediately with the use of the supersaturated solution of boracic acid in absolute alcohol, the employment of which I have suggested in otorrhœa, and which I consider as answering all the indications to be filled here; to apply it very concentrated at the beginning, and to pass on as rapidly as possible to the use of it pure.

3. At the mastoid apophysis, in case of necessity, to open the abscesses formed externally, to drain them and to cover their openings with the impalpable powder of boracic acid, which is to be sprinkled several times a day with absolute alcohol.

Having succeeded for six years in curing by the method described all the cases of mastoid troubles with which I have met, and among which were some of the gravest, I warmly recommend its rigorous and patient employment. It will render useless, in the immense majority of cases, the operation of trepanning, alone reputed capable, at present, of saving the patients. It will not be necessary to have recourse to this operation until after having tried in vain the infinitely milder means which I have just spoken of, or when there exist sequestra or an immediate vital indication. Thanks to this method, trepanning of the apophysis, instead of being the rule, as many authors declare, will henceforth be only the exception, and the last resource in the treatment of mastoid apophysis.

LECTURES.

STRUCTURE OF THE LIVER.—A lecture delivered before the Students of the Medical Department of the Tulane University of Louisiana. By EDMOND SOUCHON, M.D., Professor of Anatomy and Clinical Surgery in the University.

(Prepared by the Author Expressly For GAILLARD'S MEDICAL JOURNAL.)

The color of the liver is of a reddish-brown.

Its *consistency* is firm, but friable.

It has two *envelopes or coats.*

The serous coat is formed by the peritoneum reduced to its epithelial layer.

The fibrous coat invests the exterior of the organ; from its deep surface are given off innumerable processes which divide the interior of the liver into innumerable compartments or alveoles.

At the hilus this fibrous coat is *reflected into the interior* of the organ, forming a sheath to the hepatic artery, portal vein, bile-ducts, lymphatics, and nerves, and to each and every one of their dichotamous divisions; this reflected portion is called the *capsule of Glisson*; it terminates by being continuous with the processes given off from the external portion of the fibrous coat, and thus contributes to the formation of the alveoles of the liver, which are visible to the naked eye, specially in some of the lower animals.

Each alveole of the liver gives off, also, from its deep surface, a number of microscopic radiating or converging processes, which divide also its interior into smaller microscopic alveoles (the alveoles of the lobules). The alveoles of the liver and those of the lobules form the *stroma* or *fibrous skeleton* of the liver, and serve to support the vessels and the hepatic cells.

The proper tissue of the liver is composed of the hepatic cells, which are deposited into the alveoles of the lobules. An alveole of the liver, with its smaller alveoles and contained cells, forms an *hepatic lobule.*

The lobules are innumerable. They are rounded or polyhedral, and are of a red-brown color. They all have the same structure, so that to know the structure of one is to know the structure of the whole liver. Some call them lobules or acini, but they are lobules, and not acini.

The hepatic cells are large, irregular, polyhedral cells, with a nucleus and granulations, fat-drops, and pigment; they occupy the alveoles of the lobules, and as these alveoles present a radiated direction, the cells also present a radiated arrangement.

Capillaries.—The surface of each lobule is surrounded by a plexus formed by the divisions of the hepatic artery, then by another plexus formed by the divisions of the portal vein, and lastly by a plexus formed by the radicles of the bile-ducts.

Each of these three plexuses sends into the interior of the lobule a large number of capillaries, which follow the processes of the lobules and surround the alveoles of the lobules.

To the capillaries of the hepatic artery and of the portal vein succeed the radicles of the *hepatic veins*; these radicles, uniting with a trunk in the *centre* of the lobule, form the central *intra-lobular hepatic vein;* the trunk of the intralobular veins comes out of the lobule at any one point of the lobule, and unites between the lobules to similar venous trunks from the neighboring lobules to form the *interlobular or hepatic veins*; these unite together to form larger and larger trunks, which finally constitute the *hepatic veins;* these are remarkable by the close adhesion of their walls to the tissue of the liver, so that they remain gaping when cut across.

Bile-duct Radicles.—The origin and mode of connection of the bile-duct radicles with the hepatic cells in the interior of the lobule is still disputed.

According to most authors, they terminate by a dilated cæcal extremity, on the *outer wall* of which the hepatic cells are grouped in one, two, or more rows, the secretion of the furthermost rows being conveyed to the bile-duct from cell to cell.

According to the author, they terminate into a dilated cæcal extremity as in racemose glands. The *inner wall* is lined by one or more rows of hepatic cells, as in acini of all racemose glands. The *outer wall* of the cæcal dilatation is in contact and is almost blended with the walls of the alveoles, as in all other racemose glands. The central cavity or tract, which is described as the bile-duct radicle itself, is simply the exterior cavity or tract of the acinus and of its excretory radicle.

The liver is therefore a racemose gland, and, as such, is provided with an excretory apparatus.

[The lecture was demonstrated by a number of colored drawings and choice microscopical specimens.]

SELECTIONS.

MORTALITY IN THE MEDICAL PROFESSION.—Dr. Ogle's paper on the vital and mortal statistics of the medical profession, read at the last meeting of the Royal Medical and Chirurgical Society, is not only of personal interest to us as members of the profession in question, but is of special value as the first contribution of the kind making any pretensions to accuracy and completeness. We are so accustomed to hasty and reckless statements as to the comparative healthiness of this or that occupation, and the longevity of different classes of men, that few persons fully realize the difficulties, often insuperable, attending such generalizations, and the fallacies incident thereto.

There are employments which men or women follow only for a short period, exchanging them at the earliest opportunity for less laborious or more lucrative pursuits; others which, demanding responsibility rather than bodily strength, are reserved for elderly and steady men; and others, again, which represent one or other extreme of working life. The mean age at death in the first will be low, and in the second high, not from the unhealthiness or healthiness of the occupation, but from the fact that the persons following it are all young or all old; while all attempts at an examination of the hygienic conditions of the third are apt to end in confusion and paradox. To this class of fallacies belongs the apparently irreconcilable discrepancy between the remarkable longevity of Chelsea pensioners and retired officers and the notoriously high death-rate which exists in the army, and which would be absolutely as well as relatively higher were it not for "invaliding" or discharge from the service of all men suffering from chronic diseases or broken constitutions.

Of all professions, those of the law, physic, and the church offer the most favorable conditions for inquiries of this kind. The members are drawn from the same classes of society, enter them at about the same age, and, as a rule, continue to follow them for the remainder of their lives. They, being registered, constitute well-defined groups, so long as clerks and assistants are excluded from the calculation. The inquiry which Dr. Ogle has conducted into the extent and causes of the mortality of the medical profession could, at a certain cost of time and money, be extended to the others; but in the practice of the General Medical Council of requiring and paying for a certificate of the cause of the death of every registered practitioner Dr. Ogle had his materials ready to hand.

He has given us a mass of facts, matters for reflection, but has abstained from venturing on any explanation or comment. He showed that, at all ages, the total mortality of medical men, as well as the deaths from the great majority of diseases, exceeded those of the community generally. The classification of the causes of death is peculiarly trustworthy, since it is rarely that a medical man dies without having had at his command the highest diagnostic skill available. The only exceptions to this excessive mortality are in the cases of small-pox, phthisis, and pulmonary diseases, and accidents; though in the last

—occurring, doubtless, almost exclusively among country practitioners—they rank only below the seafaring, mining, metal-working, and building classes.

With regard to pulmonary diseases, this comparison is, as Mr. Noel Humphreys very properly observed, too favorable. These are not so much due to cold and exposure as to overcrowding and want of the necessaries and comforts of life. It is not fair, then, to compare one section of the well-to-do classes with a public largely composed of the very poor. Acute pneumonia, which is most often due to direct chill, is, we believe, a not infrequent cause of death among medical men, whose outdoor life probably saves them from much phthisis.

Naturally, the mortality from infectious diseases is very much in excess of that of the community, except (and this is instructive) that from small-pox ; but we think that one gentleman was rather too confident when he said that proper vaccination ought to give absolute, not comparative immunity. The writer of this was twice vaccinated successfully, and yet has subsequently had small-pox twice, though perhaps his case is unique. The higher mortality from other diseases, as cancer, diabetes, calculus, and diseases of the circulatory system, is not so easily explained by any special conditions attaching to the practice of medicine, as active and immediate causes. We should rather look on them as the indirect consequences of a multiplicity of causes tending to impair the constitution and to render the organism prone to physiological derangements, that is, to pathological changes of any and every kind.

We fear that alcoholism, though one of those causes of death which, like syphilis in the infant, are more often than not described in certificates by less offensive expressions, is too frequent among the overworked practitioners in mining and manufacturing districts and in the class from which ships' surgeons and assistants are largely recruited, though we firmly believe that the higher ranks of medical men in every branch of the profession are, as a rule, more temperate than others of the same social position.

Dr. Ogle did not touch on the mean duration of life among medical men ; this is everywhere admitted to be lower than among lawyers, and still more so than among the clergy. We are aware that Dr. Guy thought otherwise, but we believe that he had in view the remarkable longevity of many eminent physicians and surgeons. But the conditions of life of the consultant and the general practitioner are totally different. The hours of the former are regular, even to monotony ; and, unless he be an obstetrician, his nights are undisturbed. He can devote his evenings to study and recreation, and, however hard he may have worked during the year, he can enjoy his autumn vacation.

The general practitioner, especially in the country, can never call an hour his own. Irregular meals and broken nights, with the constant worry of studying the whims, no less than the maladies, of his patients, often the greater the less lucrative his practice, are enough to try the strongest ; and, unless he have a trusty partner, he may consider himself fortunate if he can catch a week or two of holiday once in several years.—*British Medical Journal.*

ON THE TREATMENT OF HEMORRHAGIC MALARIAL FEVER.—By Dr. R. H. Day, Baton Rouge, La.

In recent years much has been written about malarial hemorrhagic fever, or malarial hæmaturia, and its treatment; but so discordant is medical opinion as to its essential nature, and so diverse the plans of treatment recommended, that to-day the disease and its treatment are shrouded in confusion and uncertainty.

I shall limit myself in this short paper to its treatment only, premising, however, that unless a correct knowledge and comprehension of its real nature, and the pathological changes wrought in the system by it, be had, its treatment must remain vacillating, uncertain, and empirical.

Having, from my first entrance into the medical profession, been thrown into highly malarious districts of country, it was my fortune early in my medical career to become familiar with this most terrible disease, both in its mild and most virulent forms. What I have to say, therefore, about it is predicated upon a long, personal, and practical experience, and will have, at least, the merit of freshness and personality.

I think the chief obstacle in the way of its correct treatment consists in the fact that it is too commonly looked upon as a disease primarily of the kidneys, and the other lesions as secondary thereto; whereas it is emphatically an hepatic and blood disease of malarial origin, no case ever occurring except in persons presenting in the most marked and expressive manner the evidences of unmistakable malarial toxæmia. How the malarial poison acts upon the human organism to bring about these pathological changes it is not my purpose now to investigate, but simply allude to them to make the course of treatment which I have found most successful, rational and intelligible to my readers.

As a matter of course, the treatment must somewhat vary according to the stage of the disease when first seen, and to the type of the disease, whether mild or of a grave form; for it must be borne in mind that, like all other diseases, it has its different grades of severity, or types If the disease is mild in its outset, characterized by decided intermittence in its symptoms and the presence of red blood-corpuscles in the urine, or, what is sometimes the case, the hemorrhage is from the bowels instead of by the kidneys, it will indicate that the blood is less profoundly altered, and we may confidently expect an easy triumph over the disease. Here a few small doses of calomel, combined with opium and bicarbonate of sodium to stimulate the biliary secretions, followed by efficient doses of quinine, will very promptly break up the chain of morbid actions and place the patient in a state of convalescence. When, however, the type of the disease is grave and violent, which is more often the case, the stomach will be greatly nauseated, with frequent retching and vomiting of a greenish fluid filled with mucous flocculi, the pulse small and feeble, skin cool or cold, with pronounced chill or shivering and frequent emissions of bloody urine, apparently (really) disintegrated blood, destitute of any red blood-corpuscles, but abounding in the debris of the decomposed blood. Under these conditions we have no time to parley. Here decision and promptitude must mark our course. We must at once apply over the epigastrium and liver a blistering plaster, give a hypodermic injection of morphine, from ¼ to ½ gr., and repeat after one or two hours. If the stomach is not quieted and reaction established, give 3 to 5 grs. of calomel with bicarbonate of sodium every two or three hours till enough has been retained to act with certainty upon the liver (generally 15 to 20 grains suffice). If the calomel does not move the bowels after a reasonable time, say four to five hours after the last dose of the mild chloride, administer enemas of warm water containing a tablespoonful of camphorated oil every hour or two till the bowels have been gently evacuated. If the stomach is still troubled with nausea, give a drop of creosote, made into an emulsion with bicarbonate of sodium and a small quantity of morphine, with aqua menthæ every one or two hours *pro re nata*, and as soon as a bilious discharge has been had from the bowels, or reaction established, commence with quinine, either by the stomach or by hypodermic injection, in from 5 to 10 gr. doses, for its specific effect in counteracting or arresting the malarial toxæmia, and push it to its systematic manifestation; generally from 30 to 50 grs. will be quite sufficient. As soon as the function of the liver is restored or appreciably aroused, and enough quinine has been introduced into the system to make its physiological effect manifest, commence to give the muriated tincture of iron in full doses, 20 to 30 drops every four hours, with the object of toning up the debilitated blood-vessels, reconstructing and vitalizing the hæmoglobin and red blood-corpuscles, thus endeavoring to restore the normal and vital condition of the blood.

If the kidneys should fail to act, or work feebly, frequent frictions over the back, with a liniment composed of spirit of turpentine, tincture of digitalis, and whiskey rubbed in warm, will often be found efficient in stimulating them to action. Sometimes the administration of spirit of turpentine inwardly in 3 to 5 drop doses may be needed to supplement the liniment frictions in hastening the resumption of functional activity of the kidneys.

Such have been my guiding principles and course of treatment of this disease; and so well satisfied am I with the results, that I can with confidence commend the same to any physician who may encounter in his practice this very serious malady.—*Therapeutic Gazette.*

THE PATHOLOGICAL FUTURE OF THE NEGRO.

"What shall we do with the negro?" is the medical question of the hour. Time was when there could be no such problem. The sanitary condition of the negro was then an economical necessity. Every slave owner cared for the physical well-being of his slaves, if not in the interest of humanity in all cases, certainly in the interest of his own pocket. Sick negroes always threatened pecuniary loss, and they were forced to observe sanitary laws, which since their emancipation they utterly ignore. They were well fed and comfortably clothed when the weather required it. Their outdoor life and daily exercise developed great physical endurance. They were required to rise and retire early, to live regularly, and the very condition of slavery protected them from epidemic disease and eliminated from their lives all the depressing influences of civilization in the higher sociological spheres. During those days plantation practice was considered the very best, and it was astonishing how

"The jingling of the guinea helped the hurt that honor felt"

in being called to minister at the bedside of the negro sick. It was often remarked that a planter would very frequently send for a physician to see a complaining negro when he would refuse such a luxury to his family. * * *

In his original state the negro is an intellectual child. Without admixture of higher blood, he is indolent, thriftless, absolutely negative in intellectual and moral qualities. He looks ever for guidance to those above, and takes all favors as a matter of course from the hand that distributes them. He has neither gratitude nor revenge. He is and always will be, unless amalgamated by blood with higher races, a hewer of wood and a drawer of water for the intellectual element of humanity. You cannot work on the ambition of the negro. He has none. He is a physiological suppliant at the court of intellect. We are treating this question from a purely physical and psychical standpoint without any political reference whatever.

The question before us is a most important one. Let any one who is accustomed to the neatness and æsthetic surroundings of New England villages and farms come down among the herded settlements of the negro as he is to-day under the colors of freedom, and it will make his heart—yes, and his stomach too—sick to see the wretchedness and squalor, the moral apathy and social indifference, the physical neglect and the psychical depravity, of this unfortunate race. Their hovels are nests of infection. Diseases have developed among them never known to the race before it was thrown upon the world to work out its own destiny, unaided, unguided, and unloved. Scrofula and consumption are slaying their thousands among them. Unclothed, unfed, uncared for, and untaught, the marasmic forms rise up before us every day of our lives like so many shadows of death proclaiming their ethnological doom.

To the moral shame of our profession, we are forced to admit that since there is no longer behind the negro the rattle of a planter's shekels, the medical interest in his welfare has materially declined. It is not often that in these latter days you see the elegant coupé of the city physician and surgeon standing before the negro hovel. It is not often that it is possible for the negro to receive that character of medical attention that is extended to the higher social life, unless, perchance, at a college clinic or hospital for the purposes of teaching. But the profession should not be too much blamed for this neglect. There is no satisfaction in treating a negro. They neglect one another sadly, even among near relations. They will do far more for a white person than for one of their own color. Directions are never carried out. They cannot, as a rule, read them, and mistakes necessarily occur. They have no facilities for preparing and no means of obtaining proper food for their sick, and they will not, or do not, preserve cleanliness, or in any way fulfill the simplest hygienic conditions.

There are, of course, exceptions to this, but they are confined to the aristocratic limits of the city, where constant contact with higher social states does somewhat to improve their habits of life. The education of the negro in the higher schools has accomplished much, and it is here only that this problem is likely to be solved. The large infusion of white blood into the race as the result of slavocracy may possibly enable the negro to improve his intellectual and social condition, so as to take his place among the possible permanent elements in the sociology of the future, as determined by the inexorable law of the survival of the fittest; but as for those now left stranded on the shores of social neglect, there is no future but physical decay and moral ruin. But the medical profession has got to meet this question. Sanitation must take the negro in hand. The education of negro doctors has done much to alleviate their physical condition. I have seen the effect of this in the city of Nashville, long known as the Athens of the South, where from the Meharry Medical College finely educated young men have gone out to engage in the great missionary work of redeeming their race from moral and physical degradation. Naturally, there is more interest expressed by these men in their own people than can be expected from the higher race, even upon the basis of charity. The colored physician *can* collect small bills sufficient to justify his entering upon this mission in life, and his social contact will breathe a gospel message upon the heavy and feculent air of their dark abodes. It is therefore the duty of the profession to in every way encourage the education of colored physicians, and to place in their way every facility for reaching a high professional standard. Social degradation is the great enemy of physical life, and if we remain quiet while this canker is eating at the very heart of our sociological existence, it will not be long before the physical evils which follow will more than counterbalance the admitted moral evils resulting from a state of slavery.

We have got to deal with this question firmly, and totally without reference to political differences. It is now a purely physical problem. We need strong sanitary laws enacted to enforce a better condition of the poor, who are always with us. The State must furnish means to the medical profession, and grant the authority to execute their application to the needs of the lower classes. If not, we shall suffer from the infection of these hot-beds of pathological fungi, and that very soon. I have, in the plain statement of these facts, "set down naught in malice" and "nothing extenuated." What I have said is the unvarnished truth, and we can play the ostrich no longer. Let us act at once in this matter, and act strongly and fearlessly in the interest of fulfilling that "one far-off divine event" of moral and physical well-being "toward which the whole creation moves."—*Florida Medical and Surgical Journal.*

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

COMPRESSION IN MASTITIS.—In an article on this subject in the *American Practitioner and News*, Dr. David W. Yandell, having stated that two reputable physicians and their respective friends have occupied much printed space recently in endeavoring to determine to which one of the claimants belongs the credit of having originated the treatment of mastitis by methodical compression, remarks that the fact remains that the application in this affection of pressure by one and another means quite antedates the birth even of the present disputants or their champions. It is, indeed, an ancient practice, and, with certain additions, is, in the opinion of the writer, the best known up to the present time.

Among the earliest advocates of the management of mastitis by compression may be mentioned Heister, in his "Surgery" (Vol. 1, Book IV, Chapter 4). Pearson's "Principles of Surgery" contains an allusion to the same practice. MM. Trousseau and Contour published in 1841 a memoir on the "Treatment of Mammary Abscesses by Compression," a translation of the leading points of which appeared shortly after in the *Medical Gazette*, of London. The authors of the memoir made the compression by strips of adhesive plaster, broad and sufficiently long to go several times round the body. The advantages claimed by its authors for this method are, immediate relief of pain and diminution of inflammatory engorgement, and that, when applied after the abscess has opened, it promotes the evacuation of matter and shortens the suppurative period.

James Gilmour, M.D., of Liverpool, called attention anew to the subject in 1856, in an article "On Sparganosis," contributed to the London *Lancet*, Vol. II, page 164. This writer both simplified the method and lessened its cost by having the strips but fourteen inches long and one inch broad, though they may occasionally need to be both broader and rather longer. He began the dressing by attaching the extremities of one set of strips to the ribs behind, passing over the affected mamma and fastened on or about the sternum; while a second set is brought up from the anterior part of the abdomen to the clavicle, covering the first layer, and *vice versa*—each strip to overlap two-thirds of the strip last applied. Dr. Gilmour further states that in cases seen too late to prevent suppuration he was astonished at the relief afforded from pain, tension, and throbbing; and where the abscess had burst or been opened he found enormous benefit from the compression.

Dr. Yandell then goes on to say: I saw this article soon after it appeared, and, having at the time a case of milk abscess at the clinic at the University of Louisville, I at once strapped the breast after Dr. Gilmour's method. I am sure that the author could himself at no time have been more astonished at the results in his practice than I was at the absolutely immediate relief which followed the strapping in this case, and from that day to this, though I have strapped many breasts in various stages and degrees of inflammation, I can not recall an instance in which the treatment was not of signal benefit.

A glance at the method will show that it fills all the mechanical requirements demanded in the management of mastitis with the single exception of providing for adequate drainage in cases of deep suppuration. This being attended to, Dr. Gilmour's is the ideal *methodus medendi* in mastitis, securing, as it does, rest, position, and pressure, the "surgical trinity," so well named by Mr. Sampson Gamgee. If, now, in cases where suppuration has occurred before the surgeon has been consulted, or in spite of his efforts to prevent it, proper antisepsis be added to strapping, I must believe that the suffering from this very troublesome and very painful inflammation will at least be minimized.

Case 1. (Negative.) Mrs. M., mother of four children. Each confinement followed by milk abscess. Saw her in November, 1885, in consultation with her medical attendant. Right mamma enlarged, tender, red, painful. Made compression by rubber strips. Quick relief of pain, rapid subsidence of engorgement. No suppuration.

Case 2. Mrs. R., sixth confinement. Two previous labors followed by abscess of breast, which was weeks and weeks in being cured; suffering represented to be extreme. Abscess had been opened by her physician when I saw her, December, 1885, and was discharging profusely. Washed cavity of abscess with mercuric-chloride solution, 1 to 2,000, and used other antiseptic precautions; inserted horse-hair for drainage, and applied rubber plaster. Pain at once lessened. Discharge quickly diminished. Removed dressings at end of a week when cure was complete.

ELECTRICITY AS A THERAPEUTICAL AGENT IN GYNÆCOLOGY.—In an elaborate article on this subject in the *American Journal of Obstetrics*, Dr. P. F. Mundé says that his object is to show that it requires no special talent and no prolonged study of the mysteries of electricity, and no complicated or very expensive apparatus with mysterious foreign names, ancient and modern, to enable the practitioner *who is competent to correctly diagnose his patient's condition and form therefrom the proper indication*, to employ the electric current *in gynæcology* with safety, and in many cases with considerable benefit. And in making this statement he says he speaks from experience; for the many excellent results which he has obtained with electricity during the past twelve years have been gained under precisely such conditions.

The apparatus which he has found all-sufficient in his practice as a gynæcologist he describes as follows:

I. A portable faradic battery, either the well-known Kidder tip-instrument, or that made by the Galvano-Faradic Co., or any other reliable manufactory.

II. A portable galvanic battery, containing from 16 to 36 cells, with hydrostat and reversible current button.

For years I used exclusively a simple Kidder tip-battery when I wished the interrupted current; and a Galvano-Faradic Co.'s battery of 16 cells, without a hydrostat; later a more complete and elegant portable battery of 36 cells (one circuit of 12, and a second of 24 elements) with hydrostat and reversible current, made for me by Waite & Bartlett, of New York. Within the past year I had made for me by the same firm, for office use only, a more expensive combination battery in cabinet form, containing both the faradic and galvanic currents, either to be used separately at will, with reversible currents, and galvanic interrupter; the number of elements in the galvanic part is 40, an entirely too large number for practical purposes, since a larger number than 24 to 30 is scarcely ever required, safe, or borne by the patient. A galvanometer for measuring the exact strength of the current, graduated to measure milliampères, prevents shock, and tests the actual power of the battery at each sitting. The galvanic interrupter seems to me to be of questionable necessity or utility in gynæcology (except in subinvolution), since I believe that a steady, quiet, not too strong, *constant* current, if employed sufficiently long and often, answers every therapeutical requirement to be expected from that agent.

III. The instruments used in applying the current to the pelvic organs are: *a.* several round flat sponges about 2″ in diameter, fastened on metal disks, which are screwed into universal wooden handles, to which the insulated (silk-covered) wire cords are attached, which connect the sponge electrodes with the battery. These are used for external applications over small portions of the skin of the abdomen or back, either both being placed over the pelvic and abdominal regions, or one being held in the palm of the hand or placed on some distant portion of the body.

b. Two large flat sponges, 4″ to 6″ by 3″ in size, covered on one surface with rubber cloth, which slightly projects over the edge of the sponge, and provided with protected metal attachment for the connecting cords. These are used when it is desired to include a larger surface in the current, such as the whole suprapubic, sacral, or the sub-trochanteric region of the hip. All these sponge electrodes are soaked in warm salt water, and squeezed nearly dry before being applied to the skin. The counter-irritant effect of the galvanic current is intensified by the addition of salt to the water, so that patients generally speak of the sponge as feeling like a mild mustard plaster when the negative pole is external, and the skin is found distinctly reddened. Warm water alone suffices to insure the passage of the current; hence with the faradic current the addition of salt is unnecessary. As often as they become dry the sponge electrodes must be re-moistened.

c. Two metal electrodes, one a ball about an inch in diameter, for married women; the other, a small olive for virgins, each attached to a steel sound, covered with English catheter, and furnished with a screw by which it is connected with the universal handle. These metal balls or olives are covered with tight-fitting chamois leather (which should be renewed frequently, as it becomes hard and discolored), and are used for applications to the cervix and vaginal vault, and through them to the uterus and its adnexa. The leather covering prevents the escharotic effect accompanying the negative pole of the galvanic current, and helps to concentrate the current in one spot.

d. One long, flat metal electrode, of about the size and length of a finger, for applications to the whole vaginal surface, as in relaxation of its walls.

e. One sound-shaped metal electrode, isolated by catheter covering to within 2½″ of its tip, and to be screwed to the universal handle, for intraüterine use, either with galvanic or faradic current. If the current is to act only on the fundus uteri, an electrode insulated to within a quarter of an inch of the point should be employed, but I generally use the other.

A cup-shaped electrode, with or without central pin about 1″ long, for galvanization of the cervix and cervical canal, is a useful instrument when the introduction of a sound beyond the internal os is to be avoided.

For a rectal electrode, the olive tip already described answers very well; for the bladder, the intraüterine sound electrode. When it is desired to act particularly on certain points in the pelvis, either through the vagina, bladder, or rectum (as, for instance, in electrifying the ante or retro-uterine ligaments in chronic uterine displacements, or the broad ligaments in bilateral pelvic exudations), special electrodes with double points or olives may be constructed. But my experience has not convinced me of the utility or necessity of these contrivances. All metal electrodes for internal use should be dipped in warm water and covered with vaseline before being inserted into the respective passages.

f. Four or more isolated cords, each pair of different colors, so as to enable the operator to recognize at a glance, without exposing the patient, which cord is attached to the negative and which to the positive pole.

Dr. Mundé then goes on to say: An experience of over ten years' almost daily use of one or the other of the two varieties of electric batteries has impressed me with several cardinal points of practical importance in the use of these instruments in gynæcology, which are a necessary preface to the discussion of the separate affections in which electricity is beneficial.

Firstly. I have found the galvanic current far more generally useful than the faradic, because the latter is restricted to those conditions in which a stimulating influence is required, whereas the majority of chronic hystero-pelvic diseases in which electricity is indicated call for the soothing, anæsthetic, alterative action of the constant current. It is on this specific difference in the action of the two currents on living tissues than their special indications in gynæcological therapeutics depend.

Secondly. A mild, steady, absolutely painless current from a galvanic battery will answer every therapeutical purpose, and is in every way preferable to a powerful or interrupted constant current, which causes painful shock or gives positive pain. As a rule, the galvanic current should produce no other sensation in the organs through which it passes than a pleasant tingling sensation in the skin to which the negative pole is applied.

The faradic current, on the other hand, is effectual exactly in proportion to its strength, and should generally be given as strong and with as many interruptions as the patient can endure.

It is always advisable to avoid a contact between an uncovered metal electrode of a galvanic battery and the skin or mucous membrane, because the negative pole, if the current is sufficiently strong or is continued for some time (say over sixteen cells, and longer than five minutes), is liable to cauterize the part, and produce an eschar. This caustic property may at times be used for treatment, as in erosions of the cervix.

Thirdly. When a constant current causes pain, or even momentarily increases the pain which it is intended to relieve, it is doing harm, and should be either reduced in strength or discontinued. Only once have I known the galvanic current (in a case of recurrent pelvic peritonitis) to apparently increase the diffuse pelvic pains of which the patient complained, and even to be followed by one of the characteristic attacks. I will not say that the electricity actually caused the exacerbation, but am compelled to admit that possibility, and hence discontinued its use entirely in the case.

Fourthly. In spite of frequent inquiries of electrologists and experiments on my patients, I could never decide that it made any special difference, so far as the therapeutical result was concerned, which pole—negative or positive—was placed within the body, if care was only taken not to have the current too strong, and the metal was covered by leather when the internal electrode was connected with the negative pole. There are two marked exceptions to this rule, one of which is, in case it is desired to relieve pain in a certain circumscribed spot; then it is best to place the *positive* pole next to the painful point. Hence, in pelvic exudations with consequent local or reflex neuralgia, I connect the vaginal electrode with the positive pole, and attach the negative cord to the large sponge on the abdomen, sacrum, or hip, as the case may be. The second exception is, that the negative pole, if of uncovered metal, acts as a caustic when a sufficiently strong current is employed. In hyperplasia and chronic oöphoritis I usually place the positive pole within the body, in order to avoid the posible caustic influence of the negative pole on the cervix or the endometrium. But knowing the peculiar catalytic property of the negative pole (cathode), I often use it internally in these cases when I am particularly anxious to have an alterative (absorbent) effect, but am then very careful to use only a very mild current, never more than ten cells. I often reverse the current once or twice during a sitting, either breaking the circuit or reducing the strength before reversing. I have tried to produce di-electrolytic effects in some cases, hoping that the iodine painted on the abdominal skin or the vaginal vault would be conducted through the diseased organs by the galvanic current, but have seen no decided benefit from these experiments. With the faradic current it has always seemed to me perfectly immaterial which pole was internal and which on the skin. I intend these remarks to apply only to the use of electricity to the pelvic organs, without inclusion of the cerebro-spinal contents, or of any particular set of muscles or nerves. When central electricization, or the touching of any special groups of muscles or nerves is intended, I presume it does make a difference whether the current goes from or to the central ganglion; and then, also, is the gauging of the exact intensity of the current and the avoidance of shocks of vital importance.

Fifthly. I have always found it a safe plan to begin with a mild current (the galvanic, say four to six cells, the faradic as much as the patient can bear without discomfort), and gradually increased to the limit, either at one sitting or day by day, and toward the end of each sitting gradually diminish the current before disconnecting the poles.

Sixthly. When internal electricization is to be employed (vaginal, vesical, or rectal), it is always well to introduce the internal electrodes before closing the circuit, and to break the circuit before removing them, since the contact of the metal electrode with the sensitive skin at the orifices of the cavities mentioned, while the current is at its height, causes acute pain.

Seventhly. Whether benefit will be derived from the electric treatment cannot be known for some time, except when the faradic current is used to bring on the menstrual flow, the result then being either immediate or, at least speedy, after one or several applications. Several sittings will show whether the patient bears galvanism well, and will probably also, by the sensation of relief and freedom from pain for several hours after each application, give a forecast of the probable benefit to follow in course of time.

Eighthly. In order to give permanent relief—in fact in order to derive any appreciable benefit from galvanism—it must be used often, steadily, and for a long time. Thus, less than two sittings a week is merely waste of time; every other day, or even every day, is much better than less frequently, and the sittings should vary from fifteen to thirty minutes each. As improvement becomes manifest, the frequency of the sittings may gradually be reduced. In chronic pelvic inflammations, I am in the habit of giving several long (one-half to an hour) sittings of a very mild galvanic current (not more than ten cells) during the week preceding the menstrual flow for several months, as a sedative at this dangerous time, and think I have seen good effects from this plan. A course of treatment by local galvanization should last from three to six months. This may seem a very long period, but when we consider how little amenable to any treatment most of these cases of chronic enlargement and inflammation of the female pelvic organs are (hyperplasia, subinvolution, chronic oöphoritis, cellulitis, and peritonitis), and how long the condition generally existed, neither patient nor physician should begrudge the time, trouble, or expense involved, if only a chance of relief is extended. The treatment is tedious, both for the patient and the physician; for the latter can scarcely dispose of more than two such patients in an hour, and, if he is fortunate enough to have a large office practice, may spend the better part of the day there. But as he would probably feel in honesty compelled to confess himself unable to benefit many such cases by other methods, he should not fail to afford them such relief as electricity offers, even at a personal inconvenience. The results of faradism, so far as some of the chronic affections for which it is used are concerned, have been less positive in my hands than those of galvanism. When the object was to arouse dormant menstrual energy, I have been fairly successful, and the effect was speedy; of the restoration of tone of relaxed uterine ligaments, I can say but little that is favorable. I can truly say that among the most appreciative of my patients were those whom I relieved of their sufferings by the persistent use of galvanism, after they had ineffectually tried other remedies.

Ninthly. But while relief and freedom from pain may be often achieved by galvanism, a permanent cure, a complete absorption of the exudation, and a restoration of the organ to perfect health in hyperplasia, chronic oöphoritis, cellutitis, and peritonitis, is seldom achieved. But this is unfortunately the case with all other methods of treatment for these obstinate affections, without even the relief afforded by galvanism.

Tenthly. I have seen no bad effects follow the rational and careful use of either form of current. A slight bloody oozing from the uterus after intraüterine electricization may occur, but is of no consequence.

Conditions Indicating Electrical Treatment.

The pathological conditions of the female sexual organs in which electricity will be most likely to prove beneficial are the following: Deficient development of uterus and ovaries; amenorrhœa; dysmenorrhœa, obstructive and neuralgic; superinvolution; subinvolution; subinvolution (with or without menorrhagia); hyperplasia uteri; chronic ovaritis and salpingitis; chronic cellulitis and peritonitis, and lymphangitis; pelvic neuralgia, local and reflex; uterine displacements; erosions of cervix; uterine fibroids; ovarian tumors.

It is not my intention to make more than this passing mention of the tonic effect of the faradic and the sedative influence of the galvanic current on the general system in the anæmia so frequently accompanying utero-pelvic disease.

Having given the result of his experience in the electrical treatment of these various conditions, Dr. Mundé concludes his paper as follows:

Counter-indications.—It may be well to say a word about the conditions where it would be unsafe to use local electricization. I think that the rule to avoid it in all cases of acute or subacute inflammation of the pelvic organs will about cover the ground, although there may be exceptions to that rule in instances of mild subacute cellulitis and ovaritis.

The conditions in which the two varieties of the electrical current act most beneficially may be summarized as follows:

FARADISM.	GALVANISM.
Deficient development of uterus and ovaries.	Hyperplasia uteri.
Amenorrhœa.	Chronic ovaritis and pachy-salpingitis.
Subinvolution and menorrhagia.	Chronic cellulitis and peritonitis, and lymphadenitis.
Superinvolution.	Pelvic neuralgia, local and reflex.
Uterine displacements.	Dysmenorrhœa, neuralgic and obstructive.
Uterine fibroids (interstitial).	Erosions of cervix.
	Subinvolution.
	Uterine fibroids (sub-peritoneal).

The conclusions to be drawn from the experience detailed in this paper are the following:

1. Electricity locally applied is a valuable agent in gynæcological practice, and should be more widely used than it is.

2. It does not require special knowledge or experience as an electrologist to be able to use the agent safely and beneficially in gynæcological practice.

3. The remedy if properly used, and on correct indications, cannot do harm.

4. It should be used only in chronic conditions, and if it is the galvanic current should give no pain.

5. The conditions in which the faradic current is indicated are chiefly those characterized by deficient development or want of tone of the sexual organs, such as imperfect development of uterus and ovaries, superinvolution, subinvolution, amenorrhœa, uterine displacements, interstitial fibroids. The object of the faradic current is to stimulate the organs to increased growth or activity, and to produce muscular contraction.

6. The conditions in which the galvanic current is indicated are those in which it is desired to promote absorption of adventitious products, chiefly the result of previous inflammation; to allay pain, to excite reparative action, and occasionally to act as a caustic. The rapidly interrupted galvanic current, however, also excites muscular contraction.

7. Perseverance in the treatment is essential to success.

8. Acute and subacute inflammatory conditions, as a rule, counter-indicate local treatment by electricity.

9. The pathological conditions in which electricity proves useful are those in which other treatment often fails or cannot be borne by the patient.

10. In organic diseases, a permanent cure, or a restoration of the diseased organs to perfect health, can usually not be accomplished by electricity, but great relief from pain and certainly temporary improvement in otherwise intractable cases can be achieved by it, without danger and with comparatively little discomfort to the patient.

ELECTRICITY IN THE DISORDERS OF MENSTRUATION.—Dr. A. D. Rockwell, of New York, says in the *New England Medical Monthly:* Amenorrhœa, dysmenorrhœa, and menorrhagia are symptoms for the relief of which electricity is very frequently indicated, but the measure of success to be obtained by this, as by all other methods, must depend upon the causes and special character of these symptoms, as well as upon the judgment displayed in the selection and right use of the kind of current best adapted to the case in hand.

The menstrual derangements so often occurring in young girls—especially suppressed, scanty, and irregular menstruation—require as a rule only the treatment by general faradization, but to give satisfaction it must be used thoroughly and persistently, and not in the slovenly, hap-hazard way in which it is too frequently attempted. There is no department in which more mistakes have been made by too exclusively local electrical treatment than gynæcology. No case of functional disturbance of the uterus should be abandoned until general, as well as external and internal, localized electricization has been tried. One of the strongest evidences of the beneficial results to be obtained by general faradization in cases of amenorrhœa lies in the frequently observed fact that, when treated for other conditions, patients not infrequently speak of some change in the character of the menstruation. In some cases they are brought on before the time, in others much increased in quantity.

In addition to methods of application, there are several points to be considered. The time of making the applications is not unimportant. It is an advantage in amenorrhœa, at least, to concentrate as many applications as possible during the few days that precede the time for the appearance of the menses. And yet as the great thing, in all but recent and temporary cases, is to remove the chlorosis or nervous exhaustion with which the menstrual disorder is associated, and of which it is a prominent factor, the advantage of this is hardly as great as has been supposed by some. Whatever method is used, time is also necessary to insure results. While it is true that a single application, especially internal, may bring on the menses—may even cause the blood to appear during the sitting—yet in the majority of instances treatment must be more or less protracted in order to insure permanent relief.

As already suggested, the kind of electricity to be used is also a question of prime importance in the treatment of amenorrhœa. All three forms—galvanic, faradic, and static—have been used successfully, and not infrequently when one kind fails, after repeated efforts, another succeeds. Experience, however, has not altogether failed to afford some data for the best methods of procedure. In any case of amenorrhœa where the patient is weak and anæmic, with other well-understood evidences of malnutrition, the faradic current is strongly indicated over the galvanic. As already stated, the applications should be general although the local treatment, when permissible, is always in order and undoubtedly hastens the effect desired. Localized galvanization is, as a rule, not only *not* indicated, but in many cases, as I have had abundant occasion to observe, tends to induce a condition of nervous irritation that is exceedingly unpleasant. It is only as regards the local application that this objection to the use of galvanism holds in these cases. Central galvanization may very effectually supplement the action of general faradization in the hysterically inclined and the sleepless, calming frequently in a wonderful degree, and producing refreshing slumber. If, on the contrary, the patient is robust and of a full habit, galvanism is likely to be of far greater service than either faradism or franklinism. The applications should by preference be local and internal, although external treatment alone may in many cases be sufficient. As it is often desirable that mechanical effects be produced, it is frequently of service to rapidly interrupt the current, taking care to avoid too powerful contractions of the external muscles.

In regard to dysmenorrhœa, the very satisfactory results that frequently follow the use of electricity in the treatment of such cases will not be denied by those who have had any adequate experience in its use. Either of the three forms of electricity may be of service, but, as a rule, the galvanic current is far more effective in affording relief than either faradism or franklinism. It is in the so-called neuralgic dysmenorrhœa, and that due to spasm of the os uteri, that galvanism is more especially called for. External applications alone often give relief, but if these fail the case should not be abandoned until the external method is faithfully tried. In many cases great relief will follow applications to the os uteri after persistent external treatment has failed. To those who understand the physical and physiological effects of the constant current, it would seem hardly necessary to say a word against the use of anything but a steady continuous current, but instances not a few have come under my observation where practitioners have failed to consider this simple point, and have thus aggravated the symptom for which relief has been sought.

In most cases of ordinary dysmenorrhœa, whether treated externally or internally, my method is to gradually increase the strength of the current without interruptions. The strength will depend very much upon individual idiosyncrasies. Some will bear and be benefited by a current proceeding from thirty, forty, or even fifty ordinary cells, while others would receive injury from such heroic treatment. Let the first applications be tentative, and the strength best suited to the case will soon be found.

When prolonged and strong applications are necessary, the ordinary uterine electrode applied directly against the tissues is sometimes followed by undue local irritation. Soft and fine sponges may be carefully packed around the cervix, completely covering it, and pressing against the body of the uterus. Against these is firmly pressed a flat metallic electrode covered with wet chamois skin. By intercalating a rheostat and beginning with the least possible current strength, the number of cells that may gradually and without discomfort be brought into the circuit far exceeds the number that could be used without this precaution. It will be readily understood that, in gradually increasing the current in this way, it is also important to as gradually decrease it before removing the electrodes.

In amenorrhœa either pole when applied to the uterus may be followed by the best results. The negative, in the subjective sensation that it causes, is the stronger, while the positive may be slightly preferable in some cases, because its tendency is to more readily contract the muscular fibres of the uterus.

In the treatment of menorrhagia the results are not so frequently efficacious by any means, as in the forms of disordered menstruation just considered. In very many cases its origin is such that electricity can prove of little value, while there are other cases where the benefit to be derived cannot be overestimated. On the same principle that we use general faradization in cases of amenorrhœa associated with and perhaps dependent upon a weak, chlorotic condition of system, we make applications of it where similar symptoms are associated in the menorrhagic subject. In not a few such cases I have known simple external treatment by this method to be followed by complete and permanent cessation of the excessive flow, and a corresponding improvement in appearance and strength. From such local causes of menorrhagia as misplacements, intra-uterine morbid growths, etc., electrical applications are of doubtful efficacy, but where it is associated with and dependent upon old pelvic cellulitis the absorptive effects of the current upon the products of exudation are soon seen in a lessened flow and decreased pain.

ABSTRACTS.

A Case of Amputation of the Thigh in Which Cocaine Was Successfully Applied as a Local Anæsthetic. (Dr. Theodore R. Varrick, in the *New Medical Journal.*)—The subject of this case was a man aged thirty-nine years, of extremely intemperate habits, but otherwise healthy. He received a compound fracture of his right leg while in a state of intoxication. The accident occurred some six miles distant, about nine o'clock in the evening, and he was brought in an ordinary coach to St. Francis Hospital, Jersey City, where he was received between three and four o'clock in the morning. During the journey the soft parts became much lacerated by the jolting of the vehicle over rough roads, and by the struggles of the patient. All efforts, through a period of five weeks, to save the limb proving abortive, amputation was decided on. An attempt to administer ether was attended with such alarming symptoms that it was abandoned. One week from the date of this attempt, on consultation with the surgical staff, it was decided to try the effect of cocaine as a local anæsthetic by Dr. J. L. Corning's method—Dr. Corning having kindly consented to be present and conduct the necessary manipulations. February 13, 1886, Dr. Corning proceeded to apply the cocaine. The patient manifested an excessive degree of alarm, and complained loudly at the slightest touch, especially at the application of Esmarch's bandage. After the first puncture, and all through the subsequent procedure, when his attention was diverted he made little complaint. The operation by antero-posterior flaps was the one chosen, cutting from without inward for the anterior, then transfixing the limb and making the posterior flap by cutting from within outward. 1. The first incision through the integument—no pain. 2. The second incision through the deeper tissues to the bone—no pain. 3. Transfixion of the limb—no pain. 4. No pain until near the completion of the wound, which was occasioned by carrying the knife beyond the line marked on the integument. 5. On carrying the knife around the bone to divide a few remaining attachments, there were some manifestations of pain. 6. The use of the saw occasioned loud complaints, although the subsequent removal of a spiculum with the bone forceps was not noticed. 7. There appearing some redundancy of flap, the scissors were used for the purpose of trimming. This procedure was absolutely painless. 8. The insertion of sutures was unnoticed except at the angles of the wound. After the ligation of the vessels, which was painless, hot water, slightly below the boiling-point, was applied to the abraded surface, with no expressions of pain. Some of the hot water accidentally overflowed the wound and ran over the integument as far as the nates, at which he complained bitterly, and expressed the opinion that it was "rough to cut a fellow's leg off and then scald him to death." It will be noticed that no inconvenience was experienced until water passed beyond the limits of the anæsthesia. 15.—The dressings having become soiled by the oozing, they were removed and clean ones substituted. During the changing of the dressings, he was loud in his expressions of pain, and declared that he suffered more from the dressing than he did from the operation. Dr. Varick says, in conclusion: "In view of the results observed in this case, which I believe to be the first major amputation to which the method of Dr. Corning has been applied, the unanimous verdict of those present was that it was a success. If to Koller is due the discovery of the anæsthetic property of cocaine, it was reserved for Corning to utilize the great discovery and render it applicable to the greater operations of surgery.

NOTE.—A one-per-cent. solution was used for the skin and a one-half-per-cent. solution for the deeper tissue.

CASES OF EPILEPSY TREATED WITH BORAX.—In a paper with this title in the *Boston Medical and Surgical Journal*, Dr. Charles F. Folsom says that there are some cases in which no benefit is derived from the bromides in any possible combination of their salts, whether with ergot, belladonna, ammonia, and other drugs, or alone; it now and then happens that they make the disease worse, and exceptionally they give rise to maniacal symptoms. It is not seldom that they cannot be used. Their common effect is to impair appetite, interfere with digestion, and produce a certain amount of mental and physical sluggishness, which may amount to a settled gloom and indisposition to effort, and which is generally attended with some loss of flesh, even if not great, unless some tonics are given, or special efforts are made to keep up the general health; and, if given to the extent of controlling the convulsions, the bromidism produced is often so disagreeable to the patient that other remedies must be sought for. He then calls attention to borax, which has been prescribed in a few cases at the Hospital for Epileptics and Paralytics, in London, and, having stated that he has used it more or less for three years, he gives a detailed report of two cases treated with it with considerable benefit. The only annoyance from the use of the borax was a dry, scaly eruption, giving rise to a great deal of itching, but which disappeared after several weeks' use of arsenic internally, and oxide of zinc ointment, with vaseline, externally. In conclusion, he says: In both cases, the general condition had been wretched for years, from the prolonged use of the bromides; and as to the diminished frequency of the convulsions, all that could be said was that something was gained by taking the medicine. In my desire to build up the general health, and keeping in view the general tendency to an annoying skin disease from the use of borax, it is quite possible that I have not increased the doses rapidly enough. It is my intention to gradually reach thirty grains three times a day, if there is no contra-indication to its use. I should say that, in both cases, the usual physical examinations were made of chest, urine, eyes, etc. The result was negative as to evidence of organic disease. In both cases, also, there were the usual restrictions as to diet and habits of life. Indeed, there had been for years the care exercised in these respects which is common with physicians who have given especial attention to the treatment of epilepsy. I have a number of other cases in my note-books, of marked improvement from the prescribing of borax after the bromides had failed to do much good, and also many where the alternate use of the two drugs, each for several months, was attended with excellent results. But it would be superfluous to report them in detail and tiresome to listen to them. I have seen only one apparent cure from the use of borax, but thus far I have used it only in cases where the prognosis seemed very unfavorable. The first few doses of borax often produce diarrhœa, which soon ceases. The eruption on the skin is readily controlled, and the tendency to nausea, flatulence, or indigestion, is easily met with spirits of chloroform, tincture of cardamon, compound spirits of lavender, etc. In a disease where the natural tendency is to mental impairment, as in epilepsy, it is difficult to prove that the long continued use of the bromides tends towards dementia of even a slight degree, but I believe that they cannot be used for a long time without some disadvantage, and that in children or youth they cannot be taken for years together, to a sufficient extent to control epileptic convulsions, without not only direct injury to the brain but also without producing an arrest of development due to lessened energy and diminished use. I have no doubt, however, that there are cases where it is well to give them, nevertheless, and I cannot say how often, or in what cases, borax will prove successful. But we should not abate our zeal in trying to find some other means for the same end, with which there may not be so manifest injury with the benefit.

ON THE LIMITATION OF THE CONTAGIOUS STAGE OF SYPHILIS, ESPECIALLY IN ITS RELATIONS TO MARRIAGES.—Dr. Fessenden N. Otis read an elaborate paper on this subject at the recent meeting of the New York State Medical Society, which has been published in the *Boston Medical and Surgical Journal.* Commenting on Fournier's tabulated cases, he says: In this enormous mass of evidence, consisting of eighty-seven authentic examples, involving prolonged observation of 230 individuals, adduced by an acute, thorough, and competent observer, we have what I shall claim as absolute proof, first, of the non-contagiousness of all lesions of the tertiary stage of syphilis; second, of the possibility of the spontaneous cure of the contagious stage of syphilis (that is, without treatment) as shown in one case where there was no treatment, and in another case where only the iodide of potash was used. Third, that the limit of the contagious stage of syphilis may then, it seems to me, be certainly fixed at a point within the period of five years. For my part I have never seen a case of syphilis presenting an undoubted lesion of the secondary or active stage after the termination of the second year. I have seen a goodly number of cases of recurring papular syphilide, especially upon the hands and feet, occasionally upon the body, two and three years after an infection which had been thoroughly and systematically treated from the beginning, and I have always considered them as due to damage done to the lymph channels during the previous active stage of syphilis. After the third year in three such cases, marriage has been entered into with my consent, and in two, recurrences *in the identical places formerly occupied* took place nearly a year after marriage, and in both these cases the wife remained uninfected, and healthy children were reported, one now three, and the other two years old. I have seen frequent lesions of the tongue from two to a dozen years after infection, the sequel of mucous patches occurring during the active stage, which had been asserted by physicians to be mucous patches and capable of transmitting syphilis. Sometimes these would present simply as pale pearly stains or whitish patches, sometimes erosions and ulcerations and cracks, again appearing as irregular spots covered with a white or grayish pellicle or scales, with more or less induration. Such lesions I have never known to prove a source of syphilis to others, although coming into most intimate contact, such as between man and wife, for a series of years during which also occasional recurrences had taken place. Hence I do not hesitate to state that such forms of trouble occurring as a sequel of syphilis three years or more after infection do not contain the contagious property of syphilis and hence cannot communicate it. I have also seen numerous cases and observed them during long periods in which marriage has taken place from three to twelve or more years after a syphilitic infection of the father, and I have never yet seen a single symptom of syphilis in the wife or in the children born of such marriage. In one case reported in my class-room lessons, and in my work on "Syphilis and the Genito-Urinary Diseases," five years after such a marriage mucous tubercles appeared in the wife who, moving in good society, was also apparently above reproach. The husband had been three years treated by me for undoubted syphilis previous to marriage, but he had never been free from the fear that he should sometime communicate syphilis to his wife. He accepted her syphilis as a result of an infection from him, and I was almost compelled to the same conclusion, although it stultified my belief and public teaching for the previous five years. By a fortuitous train of circumstances, I was, however, enabled to obtain a confession from her, of an accidental carnal contact with an old lover, who subsequently wrote to her inquiring after her condition and stating that while apparently well, except a little erosion on his penis, he found afterwards that the erosion was a chancre, and he feared he had given syphilis to her. In the reported cases where syphilis has been claimed to have been contracted from persons whose syphilis had its initiation three or more years previously, I believe that if the truth could be ascertained it would be shown that the disease was not contracted from such erosions, but always from a source less than three years from date of the infection. The overwhelming evidence as to the improbability of the communication of syphilis after the first three or four years from the date of infection, as shown by the statistics of M. Fournier, should lead to the greatest opposition in accepting cases alleged where syphilis has been apparently acquired in contradiction of this position. The traditions of syphilis claim that, once a man has had syphilis, he is a possible focus of contagion forever, and any evidence that a man has once had syphilis is held as competent to prove that any syphilitic accident in his family, to the latest generation, may be reasonably credited to him. The important fact that syphilis may be and often is communicated through other sources is practically ignored. Syphilis from mediate contagion is common. It may be through the medium of a spoon, a pencil, a cane, a cigar, a kiss, the dentist's instruments. The accoucheur may acquire it through his fingers. Nine cases of this sort I published some years since as occurring under my own observation, and I have seen several others since that time. Besides this, I have seen at least double that number of cases of syphilis where no possible trace of the source of contagion could be ascertained. Dr. Otis says, in conclusion: We have also the knowledge of some of the various occult ways in which syphilis may be acquired, defying absolute demonstration. In the absence of an old syphilis in the husband, we have various ways of accounting for repeated abortions and pemphigoid infants, which rest upon the diagnosis of syphilis as a cause when such syphilitic history in the male parent might have been accepted, before we knew that the semen does not contain the contagium of syphilis. The great discussion in the Academy of Medicine in Paris, a résumé of which is given by Diday (page 72 of his work on "Infantile Syphilis") shows that the conclusion was arrived at that "pemphigus of the fœtus was not an immediate result of syphilis, but an indirect sequel of the exhaustion which this disease produces." Disease of the placenta caused by syphilis has been shown to result in the continuation of abortions and the production of diseased infants, independently of the continuance of any contagious element in the mother, and thus we may reasonably eliminate the contagium of syphilis as a necessary factor in the production of such accidents. With this presentation of some of the facts and arguments which may be brought to bear in favor of a positive limitation of the contagious stage of syphilis to three, and at farthest to four years, with or without treatment, I rest my case.

INTUBATION OF THE GLOTTIS FOR MEMBRANOUS LARYNGITIS (Dr. E. Fletcher Ingals, Professor of Laryngology in Rush Medical College, in the *Jour. of the Amer. Med. Association*).—Having reported two cases treated in this manner he remarks: It is too early to judge of the actual merits of this operation by the results in the few cases published, but they clearly demonstrate its practicability and no small degree of usefulness. I believe that for children under three and a half years of age it is preferable in nearly all cases to tracheotomy, but for older children the tubes thus far furnished are not large enough to admit a sufficient quantity of air, and therefore in severe cases life may often be lost when a timely tracheotomy would have been successful; but, notwithstanding these objections, the ready consent to this operation where tracheotomy would not be allowed, the ease with which the tubes may be introduced, and the freedom from danger in the operation itself, render this procedure, as it seems to me, a most important advance in the treatment of diphtheritic laryngitis and membranous croup. Often parents would not consent to having the child "cut," as they express it, who would at once assent to this method. Often there are circumstances which induce or compel the physician to defer tracheotomy until it is too late, in which cases, if this method were employed, several hours might be gained, and then, if necessary, tracheotomy might be performed. The ease with which the operation may be done will prompt its early adoption, and thus carbonic acid poisoning may often be avoided, and doubtless the extension of the disease thereby materially lessened. Again, many who might well hesitate to attempt tracheotomy need not hesitate to introduce one of these tubes; for, with a knowledge of anatomy which all physicians are supposed to possess, and with reasonable care not to exercise too much force and to use due dispatch, no possible harm can come. What though the tube were introduced several times into the œsophagus, it could be easily withdrawn by the attached thread, and it might finally be lodged in its proper place. There appears to be very little danger of the tube slipping through the glottis, and even if it should, it is so long (reaching as it does, to within half an inch of the bifurcation of the trachea), that there would be no special danger from it, and if it could not be removed *per os* it might readily be extracted after tracheotomy. As to the time the tube may be left in position, he says: The tube may remain in the larynx as long as necessary to secure perfect respiration, as it causes little if any irritation. There are few cases of membranous croup in which the glottis will be free in less than four or five days, and it is not uncommon for the obstruction to remain ten or twelve days. Therefore, if no unfavorable symptoms arise, I would advise that the tube be left four or five days before removal; then if dyspnœa supervenes it must be re-introduced, and it may have to remain ten or twelve days. No anæsthetic will be needed for the introduction of the tube, but one will occasionally be required for its removal.

He gives his conclusions as follows: Looking at the intubation of the glottis from our present standpoint, it seems well adapted for the following cases: 1. For diphtheritic and croupous stenosis of the larynx occurring in children under three and a half years of age. 2. For cases of these same affections in older children, in which, from any cause, the physician wishes to defer the operation of tracheotomy. 3. For those cases in which consent to tracheotomy cannot be obtained. 4. For those cases in which proper nursing could not be secured. 5. For severe cases of spasmodic croup in children less than ten years of age. 6. For simple stenosis of the larynx, not diphtheritic, in children. 7. With proper sized tubes it might be of value in the treatment of various forms of laryngeal stenosis in adults. I have no hesitation in saying that Dr. O'Dwyer's instruments for this operation are far preferable to any of the numerous instruments for rapid tracheotomy. I can see no good reason why the tubes for older children may not be made much larger than they now are, and if this be practicable the greatest objection to this operation will be removed; however, there will be cases in which the tube may be coughed out, and in which, if the physician leaves the patient, the child may strangle before he can be found to return the tube. In such cases the physician would sometimes be culpable for not having done tracheotomy, and thus insured an opening for respiration. The ease with which this method can be carried out will doubtless secure its adoption in a large number of cases in which tracheotomy would not be advised, and thus it may be the direct cause of saving many lives. On the other hand, we must not forget that these very features are a source of danger, leading the physician to rely on this method in cases in which nothing less than tracheotomy could be of any avail, and thus many lives may be lost. I believe, however, that the method will do much more good than harm, and that within a few years it will find its proper place among the agencies for relieving suffering and prolonging human life. Even now, I have such confidence in the operation that I think every community should have a set of these, or similar instruments, in the hands of some physician who has the good judgment to know when to use it.

PORRO'S OPERATION; SURVIVAL OF MOTHER AND CHILD.—The *Lancet* publishes the following: *La Gazzetta degli Ospitali* (January 20, 24, and 27) reports the case of C. C——, admitted June 10, 1884, in the Gynæcological Clinique of Pavia, under Professor Cuzzi. The patient had suffered much from infantile rickets, and only walked with difficulty at seven years of age. She menstruated at twelve, was married at twenty-six, and had a history of seven pregnancies. The first resulted in the birth of a living child at seven months, the second in abortion at three months, the third in a living child at full term, the fourth in twins born alive at seven months, the fifth and sixth in living children at full term. The patient remained in comparatively good health for five years, when she again became pregnant. Her health suffered greatly, she endured intense pain, and sought admission into the Pavia Clinique in the eighth month of gestation. She was greatly debilitated, and the pelvis so much deformed that the lower outlet barely admitted the exploratory finger. Labor pains commenced at 1 P.M., July 22. As natural delivery became obviously impossible, in the absence of Professor Cuzzi, who had forseen the probable necessity of operative interference, this was undertaken, with competent assistants, by Dr. Guzzoni degli Ancarani. The patient having been placed under chloroform, and strict antiseptic precautions adopted, an incision eight inches long was made in the middle line, and, according to Müller's modification of Porro's operation, the uterus was bodily brought out through the wound and an elastic tube applied round the cervico-uterine cone (*sul cono cervico-uterino*). Having divided the uterus, broken the membranes, and extracted the fœtus, the operator replaced the elastic ligature with a wire one; he then amputated the uterus and applied perchloride of iron to the stump. Having quickly completed the peritoneal toilette, the stump was fixed with a strong needle passed below the metallic ligature, the wound sutured with antiseptic silk, styptic colloid applied to the edges, and the dressing completed. The operation lasted for a few minutes over the hour. The woman woke in good condition, and had some repose after a hypodermic injection of sulphuric ether. The child, a male, was living. All the sutures were removed the seventh and eighth day. Convalescence was uneventful; the patient left her bed the forty-fifth day, the clinique for home the eighty-second day after the operation, and continued in fairly good health when seen a year afterwards.

MICROSCOPY AND PATHOLOGY.

ON ADDISON'S DISEASE.—By Bedford Fenwick, M.D., M. R. C. P.

For nearly a quarter of a century, Addison's disease has been recognized by the medical profession in England. More have believed in its specific existence, more have worked at its pathology in this country, than in any other. And yet to-day our knowledge on the matter is but little greater than when its first historian died. And this is the more to be deplored because we have not here a mere medical curiosity, of rare occurrence, of definite duration, of certain cure, but a disease which has killed its hundreds, whose course is not accurately known, whose pathology and etiology are involved in obscurity, and which is still an *opprobrium medici;* for hitherto, I believe, no case of permanent recovery has been put on record. Our present knowledge may be very briefly summed up. The patient suffers from intense weakness, which gradually but steadily increases, despite all treatment. He is languid, and utterly indisposed for any exertion of body or mind. He generally suffers from breathlessness on exertion, from anæmia, from pain in the epigastrium and across the loins. There are usually no physical signs of disease found to account for the symptoms, and these are at first diagnosed as due to atonic dyspepsia, and the patient is treated accordingly. But the asthenia and the intense feebleness of the heart increase; the anæmia does not diminish; and, if the patient lives, a new feature presents itself, or, in some cases, is evident before the onset of the constitutional symptoms. The skin becomes abnormally dark, and this pigmentation, increasing and extending, may cover the whole surface and give the patient the aspect of a mulatto. Then, with still advancing feebleness, comes death, either very suddenly or in gradually deepening coma; and on *post mortem* examination we find caseous degeneration of one or, more commonly, both suprarenal capsules, with chronic inflammatory changes in their immediate vicinity. Now, some argue that these bodies play no essential part in the disease. But, inasmuch as in some hundreds of cases showing the above symptoms during life a caseous degeneration of the adrenals was the only or chief lesion found after death, it is only logical and scientific to conclude that there may be, and probably is, a very close connection between them. And inasmuch as in nearly every case where the capsules are, *post mortem*, found in an advanced state of caseation, pronounced symptoms of Addison's disease have been noticed during life, it is hard not to believe that the relation between the facts is simply one of cause and effect. Now, the constitutional symptoms have for many years past been generally supposed to be due to nerve-changes. These, for example, would cause the relaxation of the abdominal vessels, and so the intense blood-stasis evidenced by the condition of the spleen and mucous membranes, and the consequent external and cerebral anæmia. In like manner, the characteristic cardiac, gastric, and pulmonary symptoms are explicable as due to reflected nervous irritation. So far we know or we theorize at present; but now three great practical questions suggest themselves: 1. What is the cause of the bronzing? 2. What is the seat of the cause of the constitutional symptoms? 3. Will increased pathological knowledge suggest a method of cure? It is the object of this communication, first, to detail a well-marked case of the disease, and then to offer some original and, it is hoped, some practical views on the above questions.

William McC., a laborer, aged 33, was admitted into the London Hospital on September 22, 1881, under the care of Dr. Samuel Fenwick. The following is an abstract of his case. He had always been addicted to beer, generally consuming from five to six pints a day. He had suffered from gonorrhœa and a soft chancre fifteen, and from typhus fever twelve, years ago. Otherwise, except for an annual attack of psoriasis, his health had always been very good. Four months before admission, he suffered from a "cold," attributed to exposure, and never felt well thereafter. A month later his urine became scanty, scalding, and high colored. He began to suffer from vomiting, headache, giddiness, and great lassitude, and ceased to work. These symptoms steadily increased in severity. On admission, he was noted to be a well made, fairly well nourished man, anæmic, deaf, and very dull both in mind and manner. He slept badly, ate little, and rarely spoke. He lay in bed utterly "limp" and profoundly quiet. There was tenderness on pressure over the epigastrium, the left hypochondrium, and the spines of the first and second lumbar vertebræ. The skin was in no part abnormally dark; the tongue generally appeared red at the tip and edges, with fur down the centre and at the base. The teeth were regular and good. There was no discoloration of the gums or inside the cheeks. He occasionally vomited, and complained only and entirely of weakness and lassitude. There were no marked physical signs of disease in the chest or abdomen, but the heart-sounds were dull and feeble, and the first sound, both at the base and apex, was prolonged. The pulse varied from 72 to 80, always weak and compressible; the respirations generally about 18, easy; the temperature between 97.6° Fahr. and 99.2° Fahr. The urine was straw-colored, faintly alkaline, with a specific gravity of 1012 to 1015, with albumen always present, from a mere trace up to about one-half on the morning of his death; the urea was generally 1.3 per cent., and there was usually a deposit of phosphates and epithelial casts.

On September 27th Dr. Samuel Fenwick saw him, diagnosed Addison's disease from the constitutional symptoms, and prognosed death, probably by syncope, at an early date.

On September 28th, the patient endeavored to get out of bed against orders, and fainted. He rallied, but died suddenly a few hours later.

The necropsy was made twenty-nine hours after death. Much adipose tissue was found beneath the skin and around the various organs; the skin seemed generally dark compared with that of a very fair-complexioned body next to it, but not abnormally so, and no patches of pigmentation could be found. The liver was fatty, and weighed seventy-two ounces. The spleen was enlarged and congested. The kidneys, lungs, and heart were perfectly healthy. The brain and spinal cord, the nerves in the vicinity of the capsules, the blood-vessels, and the spinal column were all closely examined, and presented no naked-eye changes. There was no ulceration or evidence of tubercle in the intestines or peritoneum, but the mucous membrane of the stomach and duodenum was of a dark slaty color, and covered with a thick ropy mucus. Microscopically, the gastric tubules seemed fewer than normal, but no abnormal pigmentation was found. Both suprarenal capsules were enlarged, hard, and nodulated. On section, it was found that the normal gland-tissue had been transformed into a translucent softish grey matter, mixed with a yellow opaque substance, which in parts was quite calcareous and gritty. It was very observable that the former translucent appearance seemed almost confined to the cortical portion, while the central or medullary part seemed to be mapped out in white, and also that this caseous material was much more abundant at one end of each capsule, gradually diminishing in extent thence to the opposite extremity of each organ. Microscopically, except in parts here and there of the cortex, no normal structure could be found. It all appeared to be transformed into a mass of oil-globules, scattered fibrils, and a few small indifferent cells.

The chief point of interest in this otherwise typical case was the absence of all bronzing of the skin. It suggests afresh the old question, "Why should bronzing occur in most cases, and yet not in some few others, of undoubted Addison's disease?" In the hope of obtaining some faint light on this matter, I collected and tabulated all the cases of the disease recorded in the last sixteen volumes of the *Transactions of the Pathological Society*, and this in order to be sure that each case had been critically tested and typical. I now desire briefly to lay before the profession the facts the above obtained table exhibits, and the theory as to the course of the disease which these facts seem to support.

1. *Age.*—The average age at death in males was 30.1 years; the extremes were 5 and 55. The average age in females was 35 years, the extremes being 19 and 55.

2. *Sex.*—Of the thirty cases in the table, 23 were men, and only 7 women, or rather more than three of the former to one of the latter. In Dr. Wilks's classical monograph on the subject, he gives (p. 18) the proportion of his cases as 19 men to 6 women, or almost exactly the same ratio. Dr. Headham Green-

how, however, in the Croonian lectures for 1875 (p. 94), deduces from his collection a much lower proportion, namely: 119 men to 64 women, or not quite two to one.

3. *Duration of Illness.*—This varied very much and very remarkably. (*a*) For bronzed cases the average duration of life from the onset of the symptoms was 23.6 months; the extremes being (?) three months and five years; but (*b*) in non-bronzed cases the average was only 4.8 months, the limits being six weeks and twelve months.

The fact seems remarkable at first sight, but the more it is considered the more remarkable does it become. Dr. Addison thought that in some cases bronzing did not occur because the patients did not live long enough for the slowly occurring skin-change to take place; but though I have searched through many monographs on the subject, I cannot find that anyone has tried to discover *why* they died so early. And I venture to believe that the explanation is not only a perfectly simple one, but that it opens up a marvellously wide field for future investigation. For if patients, without bronzing of the skin, die in almost exactly one-fifth of the time lived by those in which pigmentation occurs, it is perfectly plain that bronzing of the skin, *per se*, does not conduce to death, and therefore that the cause of the greater fatality, in the first class, must be looked for in an unusual gravity of the constitutional symptoms, which, together with the skin-change, make up the whole outward expression of the internal capsular disease. That these are unusually grave is self-evident, seeing that the heart fails so rapidly. It may, therefore, plainly be inferred that the mischief which produces these must be more intense in non-bronzed than in bronzed cases.

Now, inasmuch as the skin-change occurs sometimes long after, and sometimes before, the onset of the constitutional symptoms, and sometimes not at all, it follows that these two constituent features of the disease cannot be of absolutely identical origin. In other words, either two distinct causes must be at work, or the same cause must act upon two separate parts, attacking first one and then the other, in order to produce these two non-contemporaneous results. I think that the idea of two distinct causes may be dismissed, because, after twenty years of patient and accurate investigation of this subject, by the most able pathologists and clinicists of this and other countries, no evidence in favor of such a theory has been shown to exist. It is probable, therefore, that we have to deal with one settled cause, acting upon two separate organs, or upon two separate parts of one and the same organ.

Now, let us turn to the pathology of the disease, and what do we find? First, we find that the constitutional symptoms, the anæmia, the asthenia, the breathlessness, the evidences of cardiac and of gastric irritation, have all been, and I think well, explained by the theory of nerve-implication. But this has hitherto been looked for, and supposed to occur, *outside* the suprarenal bodies. And the one weak point in the theory has hitherto been, that nearly every observer has found different or modified changes in these nerves from that recorded by nearly every other investigator. Turning, however, to the minute anatomy of the capsules themselves, we find that Leydig (*Lehrbuch der Histologie*, Frankfort, 1857, p. 189), as the result of his laborious investigations, comes to the conclusion that the medullary portion of the organ is essentially a "ganglionic nerve-centre," and also that numerous observers have traced branches from the sympathetic, from the pneumogastric, and from the phrenic nerves, into the substance of the medulla. I would ask, then, what need have we to hunt through neighboring structures, when it seems that we have, in the very capsules themselves, both nerves to be affected and a degeneration which must affect them?

And now I would suggest, what our argument has led us to believe to be at least possible, that the constitutional symptoms of Addison's disease are due to degeneration of the *medullary portion* of the suprarenal capsules, and that the reason, therefore, why bronzing does not occur in some cases may be because, in such, the intensity of the mischief is greatest in that part and causes death before the slowly developed skin change is perceptible.

But, secondly, as to the bronzing of the skin. We find, histologically, that it is due to the deposit of pigment in the deeper layers of the rete mucosum. Clinically, we find that it is predominant where pigmentation is normally present; and, so far as I can discover, that is all we know about it. Our argument above led us to the belief that we have to deal with one common cause, a caseous degeneration, acting on two separate parts, perchance of one and the same organ. Now, it is noteworthy that we have, apparently, in the suprarenal body, an organ which is, it seems, in a superlative degree, composed of two totally distinct parts. For, turning again to the minute anatomy of the capsule, we find that Kölliker (*Manual of Human Histology*, Sydenham Society's Translation, vol. ii., p. 219), while agreeing with Leydig, above quoted, in referring the medullary portion to the nervous system, regards the cortical part as made up of "blood-vascular glands." If this be correct, I would suggest, as an almost logical sequence, that bronzing of the skin may be due to degeneration of the *cortical layer* of the suprarenal bodies, perhaps in consequence of some physical or chemical change in the constitution of the blood, taking place through the affection of the "blood-vascular glands."

I have noted, in my description of the case above given, that parts of the cortex were healthy, and that generally, in that portion, the disease appeared to be in its initial stage; whereas the medullary portion had undergone much caseous, or farther advanced, degeneration; and in several museum-specimens I have found the same naked-eye appearances where bronzing was absent. Argument then, and the still more forcible logic of hard facts, seem to point to the above conclusions. The truth or the error of the theory must be decided by accurate and extended observation as to the distribution of the disease, macroscopically and microscopically, in future cases. If it be true, I need hardly point out what a wonderful field for investigation it will open up, not only into the functions of the ductless glands, not only into the chemical phases of degenerative changes, but also into the great practical question of cure.

For, seeing that the disease is inevitably fatal, if it be proved to be confined simply to the suprarenal capsules, why should not the organs be extirpated? Physiologists have shown that their presence is not essential to life. I venture then to think that the question I would leave future observations to finally settle is not only important theoretically, but, in its aim, intensely practical also.

I would briefly summarise, therefore, that (1) the average age at death in Addison's disease is between 30 and 35; (2) males are much more subject to the disease than females; (3) cases with bronzing of the skin usually die within three years, and cases without bronzing within five months from the appearance of symptoms from progressive asthenia; (4) the *constitutional symptoms* are probably due to degeneration of the *medullary portion* of the suprarenal capsules; (5) *bronzing of the skin* may be due to degeneration of the *cortical layer;* (6) if death be chiefly due to the capsular changes, then the successful extirpation of these bodies might cure the patient.—*British Med. Journal.*

HOSPITAL NOTES.

Modern Surgical Practice.—Dr. Frederic S. Dennis thus concludes an article entitled, "Two Months of Hospital Practice," in the *Florida Medical and Surgical Journal:*

In conclusion, there is one point of special interest, in connection with this group of cases, to which I would direct attention, and that is the absence of pus in nearly every case of surgical operation. It is due to this fact that knee joints have been repeatedly invaded for wiring a patella; that the ankle joint has been opened for diagnosis; that resection for tuberculous joints has been performed; that compound fractures have been treated and healed by primary intention; that abdominal cavities have been explored for suture of intestine, and for diagnosis; that amputations have been repeatedly performed, including such as the upper half of the thigh; that excision of the breast for cancer and sarcoma; that trephining the skull, in many cases for different indications, and also the spine for depressed fracture; that osteotomies for the relief of bow-legs and for genu valgum; that a double compound dislocation, with fracture of knee and elbow joints, occurring at the same time, have been treated without pus in the same patient; that incised wounds have healed without any constitutional or local disturbance; that abscesses have been treated aseptically; and that other operations have been performed. In this long list of numerous surgical operations, all of which I have performed within a few weeks, and in the treatment of all varieties of wounds, it would not be strange if here and there an accident had not occurred, where a pus was found. It was, however, the rarest exception, and, as a rule, all these cases healed by primary intention, and without the intervention of a single drop of pus. The one thing, more than all others, which has contributed to the accomplishment of this much-desired object in surgery, which may be considered almost a Utopia, is *absolute cleanliness.* Any part of the body to be operated upon was subjected to the most rigid ablution.

Let us take, for example, the preparation of a patient for abdominal section The abdomen is to be thoroughly washed with hot water and soap, even the umbilicus, and scrubbed with a brush until the parts are perfectly cleansed. Then the same parts are irrigated with a solution of mercuric bichloride (strength 1–1,000), then over this surface is poured a saturated solution of ether and iodoform. Towels, wrung out in a warm solution of bichloride of mercury, are placed over the front of the chest, and below, over the symphisis, and upon both sides of the abdomen, leaving only a space for the operation, which is to be performed from beginning to end under a continuous irrigation of this same antiseptic (1–2,000), the peritoneal cavity with a solution much weaker. Sponges, instruments, ligatures, sutures, everything to be employed in the operation to be thoroughly disinfected before the operation, and to be kept, during the operation, in glass or tin trays, containing solution of carbolic acid (1–20), in a weaker solution, when the viscera are manipulated. The hands of the surgeon and the hands of the assistants are to be washed thoroughly at the time of the operation, with soap and hot water, and scrubbed with a nail-brush, and then the hands are made aseptic by immersion into a solution of bichloride of mercury, and then no towel is to be used, but the hands of the operator must be continuously irrigated during the entire operation, just as the part of the body to be operated upon is irrigated. The dressings to be used after the operation should have been made fresh, and with great care, and kept in air-tight boxes until wanted for immediate use. To some not accustomed by education, or training, or practice, all this may seem a species of red tape which is useless and absurd. I can only say, in reply, unless this rigid iron rule of *absolute cleanliness* is observed, operations of the greatest magnitude cannot be performed with a uniformity of certain success. To any one skeptical in the belief in the power of micro-organisms in the air, or soil, or water, to produce decomposition and putrefaction in wounds, and hence pus, their doubts can be removed by inspecting the results of the work in bacterial culture in the Carnegie Laboratory, where, during the past year, much valuable work has been done in the way of obtaining accurate knowledge in relation to the germicidal powers of various antiseptic solutions. It is the application of this knowledge obtained by work in a biological laboratory to the great principles of surgery that has enabled the surgeon to do now what, ten years ago, no surgeon dared to undertake, and to see results now which were never thought possible a decade since, and before the application of this new science to surgery.

MIDDLESEX HOSPITAL, LONDON.—UTERINE FIBRO-MYOMA, CAUSING RETENTION OF URINE, TREATED WITH ERGOTINE; RECOVERY.—Service of Mr. Henry Morris. In September, 1882, Mr. Morris was asked by a medical man to see a patient in great distress from retention of urine, caused by an abdominal tumor. The patient was unmarried, and about forty years old. When first seen the abdomen was greatly distended, and she was suffering severe pain from unrelieved retention of urine of several hours' duration. There was no difficulty in introducing an elastic catheter into the bladder, when about three pints of urine were drawn off. She was then greatly relieved. On examination a large abdominal tumor was felt, which was diagnosed as a fibromyoma of the uterus. The abdominal tumor was of several years' duration, and she had previously experienced several attacks of retention of urine. Beyond this, and inconvenience from the size of the abdominal enlargement, she had suffered little. She came to London from Australia, with the intention of having the tumor removed by operation. But as the menopause was approaching, and there was no uterine hemorrhage, Mr. Morris dissuaded her from this, and gave her ergot. She subsequently consulted Sir Spencer Wells, and the ergot was discontinued. She next came under the care of Dr. Moore, of Cavan, who wrote to Mr. Morris asking his opinion on the case. In reply, Mr. Morris urged the continuance of the ergot treatment, which was in accord with Dr. Moore's wishes, and accordingly it was thoroughly tried. For four months she took a pill containing one grain of ergotine three times daily; then she took one drachm of extract of ergotine daily for another four months. At the end of this time the tumor had very much diminished. The ergot medicines were, however, not given up, but had been continued up to September, 1885, when Mr. Morris again saw and examined the patient in London. She was then in excellent health, and the abdominal prominence had completely disappeared. On deep pressure over the hypogastrium a small hard lump was felt. On vaginal examination the uterus was found heavier and larger than normal. In a letter to Mr. Morris, Dr. Moore said he was sure the disease was starved out in the patient. He had had three other similar cases, and now after a lapse of ten years there had been no return of the tumors, and the patients are now in perfect health.—*Lancet.*

SANITARY.

DISINFECTANTS RECOMMENDED BY THE COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATIQN—in their report submitted to the Association at the meeting held in Washington, in December, 1885.

FOR EXCRETA.

(*a*) In the sick room:

For spore-containing material;

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1:500.*

In the absence of spores:

3. Carbolic acid in solution, 5 per cent.
4. Sulphate of Copper in solution, 5 per cent.
5. Chloride of zinc in solution, 10 per cent.

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* The addition of an equal quantity of potassium permanganate as a deordorant, and to give color to the solution, is to be recommended. (Standard solution No. 2.)

(*b*) In privy vaults:

Mercuric chloride in solution, 1:500.

(*c*) For the disinfection and deodorization of the surface of masses of organic material in privy vaults, etc.:

Chloride of lime in powders.†

FOR CLOTHING, BEDDING, ETC.

(*a*) Soiled under-clothing, bed-linen; etc.:

1. Destruction by fire, if of little value.
2. Boiling for at least half hour.
3. Immersion in a 2 per cent. solution of mercuric chloride of the strength of 1:2,000 for four hours.‡
4. Immersion in a two per cent. solution of carbolic acid for four hours.

(*b*) Outer garments of wool or silk, and similar articles, which would be injured by immersion in boiling water or in a disinfection solution.

1. Exposure to dry heat at a temperature of 110° C. (230° Fahr.) for two hours.
2. Fumigation with sulphurous acid gas for at least twelve hours, the clothing being freely exposed, and the gas present in the disinfection chamber in the proportion of four volumes per cent.

(*c*) Mattresses and blankets soiled by the discharges of the sick.

1. Destruction by fire.
2. Exposure to super-heated steam—25 lbs. pressure—for one hour. (Mattresses to have the cover removed or freely opened.)
3. Immersion in boiling water for one hour.
4. Immersion in the blue solution (mercuric chloride and sulphate of copper) two fluid ounces to the gallon of water.

FURNITURE AND ARTICLES OF WOOD, LEATHER AND PORCELAIN.§

Washing, several times repeated, with:

1. Solution of mercuric chloride 1:1,000. (The blue solution, four ounces to the gallon of water, may be used.)
2. Solution of chloride of lime, 1 per cent.
3. Solution of carbolic acid, 2 per cent.

FOR THE PERSON.

The hands and general surface of the body of attendants, of the sick, and of convalescents at the time of their discharge:

1. Solution of chlorinated soda diluted with nine parts of water (1 : 10).
2. Carbolic acid, 2 per cent. solution.
3. Mercuric chloride, 1:1,000; recommended only for hands, or for washing away infectious material from a limited area, not as a bath for the entire surface of the body.

FOR THE DEAD.

Envelope the body in a sheet thoroughly saturated with:

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* A concentrated solution containing four ounces of mercuric chloride and one pound of cupric sulphate to the gallon of water is recommended as a *standard solution*. Eight ounces of this solution to the gallon of water will give a dilute solution for the disinfection of excreta, containing about 1:500 of mercuric chloride and 1:125 of cupric sulphate.

† For this purpose the chloride of lime may be diluted with plaster-of-Paris, or with clean, well-dried sand, in the proportion of one part to nine.

‡ The blue solution containing sulphate of copper, diluted by adding two ounces of the concentrated solution to a gallon of water, may be used for this purpose.

§ For articles of metal, use solution No. 3.

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1:500.
3. Carbolic acid in solution, 5 per cent.

SANITATION IN ENGLAND.—Some of the effects of the recent remarkable development of sanitary science and the enforcement of sanitary laws are shown in the last annual report of the English Registrar-General. The period taken up for examination is the last ten years. There has been a marked decline in the mortality from scarlet fever and measles, 26 per cent. in one case and 14 per cent. in the other, but the most striking change appears in the mortality caused by typhoid and other fevers of similar origin. The number of deaths fell from an annual average of 885 per 1,000,000 to 484. Here is a decline of 45 per cent. in ten years in the mortality from those diseases that are most directly and largely caused by a violation of the simplest sanitary laws, and the improvement is an excellent test of the value of careful sewerage, a supply of pure water, and modern sanitation in all its branches. The results of sanitary work are shown more plainly in England than in any other country. In some of the manufacturing towns the death rate has been cut down one-half within a few years. The contrast between one of these towns, with a death rate of 12 or 15, and Granada, in Spain, with an average annual death rate of more than 40 for the last ten years, shows that Spain stands in need of a persistent preaching of the gospel of cleanliness.

* * *

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme............	equal to	1-65th	grain.
1 centigramme............	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme.............	"	150	"
1 hectogramme............	"	1,465	"
1 kilogramme.............	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre.............	equal to	1-1,000th	metre.
1 centimetre.............	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre.............	"	100	"
1 kilometre	"	1,000	"
1 myriametre.............	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre....... .	equal to	15	troy grains	water.
1 centrilitre......	"	150	"	"
1 decilitre...... ..	"	1,500	"	"
1 litre.............	"	(1 qt.) 15,000	"	"
1 decalitre.......	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.....	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.......		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

THE USE OF NITRO-GLYCERIN IN DIFFERENT FORMS OF NEPHRITIS.—At a meeting of the Section on Practice of the New York Academy of Medicine held February 16, Dr. F. P. Kinnicutt read a paper on this subject, in which he said that in the treatment of acute symptoms he had found the following the most efficient method: The initial dose should not exceed one minim of a one-per cent. alcoholic solution, which represented one two-hundredth part of a grain of pure nitro-glycerin. If no unusual susceptibility was exhibited, two minims might be given at the expiration of half an hour, and repeated at intervals of an hour until relief was obtained or the inefficiency of the drug demonstrated. Two or three single doses of one one-hundredth of a grain might be given at intervals of a quarter of an hour in the presence of grave symptoms, and then at intervals of half an hour to an hour. He preferred at first to administer the drug, to the extent of producing slight physiological effects, such as flushing of the face, or a feeling of intra-cranial fulness, or constriction of the throat, thus testing its quality and the susceptibility of the patient. He gave brief histories of a number of cases so treated, and summarized the results as follows: 1. That in nitro-glycerin, given in small doses frequently repeated, we possessed a powerful agent for lowering increased blood-pressure, which was very commonly associated with uræmic symptoms. 2. That its power to control or relieve many of the paroxysmal disturbances of the nervous system included under the general term uræmia, headache, and asthma especially, was more marked than that of either opium or chloral. 3. That its action in parenchymatous and interstitial nephritis was to increase the amount of urine excreted, and to diminish the quantity of albumen. 4. That in nitro-glycerin we had the means of maintaining more or less continuously lowered blood-pressure, thus averting or relieving symptoms and prolonging life. Regarding the administration of nitro-glycerin in chronic nephritis, the strength of a single dose should be just within the limits of producing subjective symptoms, and this could be determined only by careful trial in individual cases. It was well from time to time to increase a single dose to the production of subjective symptoms to learn whether the system had not become tolerant from its long use, and, if found necessary, to increase the dose.

TREATMENT OF CARBUNCLE WITH CARBOLIC ACID INJECTIONS.—Dr. C. H. Wilkinson, of Galveston, relates the following case in *Daniel's Texas Medical Journal:* "An Italian laborer, æt. 51, applied to me for treatment of a well developed carbuncle situated upon the posterior cervical region, which measured five by six inches and was very irritable. I selected two or three of the most prominent sinuses and injected into each of them about ten minims of pure carbolic acid, full strength. On the second day after the injection it was noticed that the inflamed areola had nearly disappeared, and the sore itself was casting off several large sloughs. A few more drops of acid were then injected, after which the ill-conditioned, painful, and highly inflamed carbuncle was converted into a simple, healthy, granulating ulcer, which healed to complete recovery within a few weeks after." Dr. Wilkinson then goes on to remark: "Since the treatment of this patient I have fallen heir to many similar cases; the carbuncle in the great majority of instances being situated on the nucha; and in every instance did a speedy return to health follow the carbolic acid treatment, as carried out in the case of the Italian. My method of employing the agent has been, as just stated, to select a few prominent sinuses and inject into them from five to ten drops of pure liquid carbolic acid, using an ordinary hypodermic, or, better still, a Heaton's hernia syringe, throwing the fluid in the direction of the hard, red, and painful spots about the periphery, and being careful to pick up all excess of acid that might ooze back through neighboring sinuses, with sponge or blotting-paper. Carbolic acid in this class of cases acts by converting an unhealthy into a healthy inflammation. All erysipelatous tendency is checked instanter, wherever the acid touches, while the stimulus it affords to the capillaries promotes absorption on the one hand and healthy granulation on the other. Great sloughs of necrotic connective tissue are thrown off, and the carbuncle is soon converted into a rapidly-healing simple ulcer. Furthermore, carbolic acid acts as a local anæsthetic in these cases, and, did it do no other good than this in these most painful affections, we would be amply justified in its employment for this purpose alone." In commenting on the above, the *Journal of the American Medical Association* says that the plan here suggested is certainly worthy of a fair trial, with proper caution, lest too much of the carbolic acid might enter the circulation.

THE DOSAGE OF ANTIPYRINE.—Huchard writes to the *Journal de Médecine*, No. 3, 1885: "We give antipyrine in the Bichat Hospital (one of the largest in Paris) always with the greatest success." Huchard advises to give, in phthisical patients, not more than ½ to 1 gramme (7½ to 15 grains), instead of 2 to 4 grammes (30 to 60 grains), and in typhoid fever not over 1 gramme, every three or four hours. This method of administration will prevent the only serious objection to its use,—viz., the profuse perspiration which, on account of the ensuing exhaustion, is not rarely a dangerous occurrence. Although antipyrine will in no instance reduce the temperature to its normal level, it will invariably produce a sufficient reduction of the same to render its employment both in phthisical and typhoid conditions very desirable.—*Therapeutic Gaz.*

THE CARNIVOROUS DIET IN THE REDUCTION OF FAT.—Dr. John Fletcher Little, of Leeds, writes as follows to the *British Med. Journal:* On Friday, January 8, I read the account of Dr. Salisbury's treatment in the *Pall Mall Gazette*, and determined to try the effect of it in my own case. Seven years ago I weighed 11 st. 12 lbs. (height, 5 ft. 9 in.), and when I trained for my college-boat I always lost five pounds. A month ago I weighed 14 st.; so I was at least two stone above my weight. If any of my lean brethren wish to know how I felt, let them put on a top coat with two stone of shot stowed away in the pockets, and wear it for a a single day. When my friends congratulated me on my aldermanic appearance, their compliments were as gall and wormwood to my soul. If they had felt, as I did, that the hills of life were growing steeper, and that the pleasure of living was contracting in a daily narrowing circle, they would have condoled with instead of congratulating me. For the last six weeks I have lived on lean meat and hot water, or its equivalent, and yesterday I weighed 13 stone. I have taken a pint of hot water (130° Fahr.) at 7 A. M.; a pint of "schoolroom-tea," with a squeeze of lemon in it, at 11.30 A. M.; the same at 3.30 or 4 P. M.; and a pint of hot water (130° Fahr.) at 10 P. M.; a pound of beefsteak at 8.30 A. M.; a pound and a quarter at 1.30 P. M.; and a pound at 6.30 P. M. This has been hot, but preferably cold, and has been varied with hare, chicken, etc. The result is this: I am a stone less in weight; I am six inches less in girth; my gouty "heirlooms," in the shape of "hereditary deposits," have disappeared; my flatulent indigestion has vanished; my mental and bodily activity has doubled; I spoke on Thursday for an hour with less effort than I did in December for ten minutes; I sleep for seven hours without moving; I can wear gloves and shoes a size smaller; I have lost my tendency to catch cold; my muscles are daily hardening; my kidneys are doing their duty nobly; my figure is altering so rapidly that my tailor is in despair; but I am triumphant. When I have completed the course, if you will spare me room, I will finish my tale, and relate the lessons I have learnt in dietetics and therapeutics during the experiment.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK COUNTY MEDICAL ASSOCIATION.

Monday, February 15, 1886.

LAPAROTOMY IN THE TREATMENT OF PENETRATING WOUNDS AND VISCERAL INJURIES OF THE ABDOMEN.

Dr. Frederic S. Dennis, Professor of Surgery in Bellevue Hospital Medical College, read an elaborate paper with the above title, which contained numerous statistics and reports of cases, and was richly illustrated by pathological specimens of great variety from a number of the cases referred to. The conclusions at which he arrived after a full consideration of the subject were stated as follows:

First. That penetrating stab-wounds of the abdomen are less fatal than penetrating gunshot wounds; but that the former are fatal in too great numbers to allow the surgeon to be content with the older methods of treatment.

Second. That if the stab-wound has injured the intestine or any abdominal organ, laparotomy is indicated. It may be indicated also in cases where the gut is not perforated, but where it may have become twisted as a result of the stab-wound.

Third. That in a penetrating stab-wound in which doubt exists the diagnosis should be made certain at once, in order to pursue a proper line of treatment.

Fourth. That laparotomy offers no additional danger to the patient, if properly performed with the strictest antiseptic precautions.

Fifth. That while the number of cases in which there was an exploratory laparotomy made in stab wounds of the abdomen affords insufficient data upon which to establish any fixed rule of practice, the same principle which is recognized in the performance of laparotomy for gunshot wounds of the abdomen is also applicable to penetrating stab wounds.

Sixth. That the enlargement of the original wound for an examination of the peritoneal cavity will not enable the surgeon to exclude in all cases fæcal extravasation, perforation, volvulus, and hæmorrhage. These may all exist, and yet no evidence of their presence be manifested upon inspection through a small opening.

Seventh. Neither the size, shape, character, and velocity of the bullet, the attitude of the patient at the time, nor the kind of weapon used to produce a stab-wound, seems to Dr. Dennis to influence the question of laparotomy.

Eighth. It is possible to have a fatal hæmorrhage from the large venous trunks in the abdomen, and this hæmorrhage not be discovered until the cavity is about to be closed.

Ninth. That the sutures, if properly applied, will close the perforation in every case, no matter how lacerated the wounds are, or the sutures will close the wound in case of resection of the gut, so that no leakage will occur if water is forced through the sutured interstices.

Tenth. The success of laparotomy is to be attained when every arrangement is complete and perfect.

Dr. Dennis paid a tribute to the remarkable foresight of the late Professor Gross, of Philadelphia, whose prophetic utterances of nearly half a century ago in regard to this subject he quoted, and said that the credit of this great achievement will be found to be due to the influence and teaching of Gross, Marion Sims, and Parkes, of Chicago; while it remained for Dr. W. T. Bull, of New York, to make the practical application of the knowledge acquired from Dr. Parkes's experiments to a higher use. It was plain, indeed, he said, from a cursory view of these chronological facts, that laparotomy in penetrating abdominal wounds and visceral injuries was conceived, developed and perfected in America.

Among the cases mentioned in the paper were a considerable number which had been treated by Dr. Dennis himself. While speaking of penetrating stab wounds he reported two cases of great interest, in both of which he was enabled to present the patients, restored to health, to the members of the Association, who had an opportunity of inspecting the cicatrices left. The first was that of a young man, 22 years of age, who was admitted to St. Vincent's Hospital in November, 1885, suffering from two abdominal wounds inflicted with a knife. The intestines, which were perforated, protruded, and there was fæcal extravasation, but not in the peritoneal cavity. The wounded intestine was sewed up with catgut sutures, and, after a careful examination had been made for other wounds in it, returned to the cavity, and the external wound closed. He remarked, in connection with this case, that the operation of exploratory laparotomy was not called for in this instance, because the intestines protruded and could be drawn out and sufficiently examined without such an operation, and that a concealed wound would have been much more dangerous.

The other case was that of a negro 57 years of age, who was admitted to his wards in St. Vincent's Hospital December 20, 1885. He had been stabbed in the umbilical region, to the left of the median line, and from the wound, which was one and a half inches in length, protruded a finger-shaped piece of omentum. The latter was tightly compressed by the edges of the wound, and was afterwards removed by Dr. Dennis. Antiseptic gauze was immediately placed over the parts, and three hours after the accident laparotomy was performed under strict antiseptic precautions. A vertical incision was first made in the median line, and then a second one diagonally, which joined the wound to this. The viscera were thoroughly examined from the stomach to the inguinal flexure of the colon. The small intestines were turned completely out of the body, and omentum and mesentery carefully inspected, but no injuries were found. He remarked, by way of comment, that it might be objected that laparotomy was not necessary in this case; but in answer to this he would simply call attention to the fact that this was not known at the time. If the intestines *had* been wounded, and laparotomy had *not* been performed, the patient would undoubtedly have died. The laparotomy was called for, therefore, in order to find out what the actual condition of affairs was. This, he believed, was the first laparotomy which had been made in the case of a stab-wound where it was not *known* that the intestines were wounded. In another case of the same kind, however, he would now recommend that the wound itself should be enlarged sufficiently to make an examination of the intestines before performing laparotomy proper, as this procedure was a little more conservative. The operation, in this instance, he wished it to be understood, had not been sudden and unpremeditated, but was the result of much study and experience in connection with other similar cases.

In speaking of gunshot wounds he also reported in detail two cases of his own, in both of which laparotomy was performed. The first was that of a young man, 23 years of age, who was admitted to the Ninety-ninth Street Reception Hospital January 2, 1886, suffering from a penetrating wound of the abdomen caused by a 32-calibre pistol ball. Severe shock was present, but laparotomy was performed, when it was found that there was the most profuse hæmorrhage in the cavity. The examination showed that the principal source of this was the veins in the transverse fissure of the liver. There was no wound of the intestines. On account of the extreme exhaustion of the patient, twelve ounces of a saline solution were injected into the radial artery. This was followed by marked benefit, and the same thing was therefore repeated every four hours, the cannula being in the meanwhile retained in the artery. At the end of forty-eight hours, however, the patient died, and at the autopsy the bullet was found imbedded in the right lobe of the liver, the wound being necessarily a mortal one, on account of the irreparable injury to large blood vessels.

The second patient, aged twenty-two, was admitted to the same hospital January 10, 1886, also suffering from a penetrating abdominal wound inflicted by a thirty-two calibre pistol. He had marked shock, and laparotomy was resorted to by Dr. Dennis. There was fæcal extravasation, and seven openings in the intestine, with one in the mesentery, were found. The hæmorrhage was so enormous that in view of the alarming condition of the patient, the operation had to be abandoned before its completion, and death ensued in forty-eight hours after the injury. At the autopsy the cavity of the abdomen was found completely filled with blood; but the sutures which had been made in the intestines rendered them perfectly water-tight.

He remarked, in connection with the frightful and uncontrollable hæmorrhage met with in these two cases, that at present the great desideratum in laparotomy for penetrating wounds was some means of arresting hæmorrhage from such large vessels as the vena cava and the iliac and portal veins; and it had occurred to him that this might possibly be accomplished by constriction of the thighs and the waist for a sufficient time to enable the surgeon to secure the bleeding trunks. When this point was accomplished, he believed that laparotomy as an operation would meet with the most brilliant success. In one case which he referred to, in which laparotomy was not performed, no less than ten perforations of the intestine were found at the autopsy, and the failure to resort to the operation therefore deprived the patient of the only chance of recovery that he had. In this instance the existence of perforation was not suspected by the surgeon in charge; so that it forcibly illustrated the advisability of exploratory laparotomy even in comparatively favorable cases.

Besides penetrating stab and gunshot wounds of the abdomen, Dr. Dennis mentioned a third indication, viz., rupture of the intestine. A number of cases, illustrated with specimens, were related. In two the patients were run over, and in the others injuries of various sorts were received. As far as he had been able to discern, only two cases of laparotomy for rupture of the intestine from traumatism had ever been reported. In speaking of this class of cases, he referred particularly to emphysema of the tissues and loss of hepatic flatness on percussion as indications of perforation. Collapse, he said, was the only constant symptom; but it was not pathognomonic. The rupture was always in the small intestine, and the contraction of the muscular fibres usually prevented fæcal extravasation. The performance of laparotomy in these cases enlarged the domain of abdominal surgery, although no successful result in it had as yet been reported.

In treating of the signs of visceral perforation in general he said, in regard to the matter of shock, that the persistency of the shock was of more significance than its severity; and when it was persistent it afforded a strong link in the chain of evidence. The shock, however, he said, was more apparent than real, being due rather to the sympathetic than to the cerebro-spinal system, as was also the case in strangulated hernia. He thought its presence should not deter the surgeon from performing laparotomy, and in his own cases he had found that the collapse improved after the opening of the abdomen. Shock, however, affords no direct evidence of perforation; and a number of cases were on record in which, although perforation had actually occurred, there was little or no shock present, and death occurred almost without warning.

In the discussion which followed, Dr. Joseph D. Bryant called attention to the necessity of discriminating sharply between the two forms of the operation, viz.: exploratory laparotomy and laparotomy in its entirety. The performance of the former he advocated much more frequently than was now the case, believing, as he did, that when done under proper conditions it exposed the patient to no unusual danger. The performance of the latter, however, was a much more serious procedure, involving no little skill, patience, and expenditure of time and requiring the most favorable conditions for its success. In this connection, he remarked that he would not consider a case of laparotomy in its entirety one in which there were found no injuries of the intestines or other viscera. In regard to shock, he agreed with Dr. Dennis that it was perfectly justifiable to perform exploratory laparotomy whether it was present or not. Whether the exploratory incision was to be made in the median line or not depended on the direction of the violence producing the wound. If this was towards the median line, the incision was to be made in the latter, but if the direction was from the median line it was to be made at the seat of the external wound. He spoke also of the very great importance of hæmorrhage, and said that it was absolutely necessary, in performing laparotomy in its entirety, that every bleeding point should be satisfactorily secured. Not infrequently very slight oozing became changed to profuse hæmorrhage as soon as the abdominal contents were returned to their places and the cavity was closed up. Experiments which he had made on dogs (shooting them in the abdomen, and then performing laparotomy) had further convinced him of the extreme importance of this element in gunshot wounds of the abdominal cavity.

Dr. E. G. Janeway said that the absence of hepatic dulness was a good general guide as to the existence of perforation of the intestines; but there were a certain number of cases which simulated this condition. Thus, in a case of typhoid fever under his observation, in which, on account of this symptom, perforation was supposed to have taken place, it was found at the autopsy that the resonance over the hepatic region was not due to perforation but to the tilting of the liver.

Dr. H. M. Biggs also related a case which went to show that loss of hepatic dulness was not an infallible sign of perforation. It was one of peritonitis, and, the absence of liver dulness being detected, it was naturally supposed that perforation had occurred. At the autopsy, however, it was found that this was not the case, but that the intestines had become forced between the liver and the abdominal walls.

Dr. J. W. S. Gouley said that he believed that the views expressed this evening were sound, and that laparotomy was justifiable when we had reason to believe that the hollow viscera had been injured. At the same time, numerous instances were on record in which recovery had taken place under these conditions, and as illustrations he related two cases which had come under his observation during the late war. In one instance the patient had a bayonet wound completely through the body, and in the other a pistol shot also passed completely through the body. In the latter case the right lobe of the liver, as well as the lower lobe of the right lung, was injured, and bile flowed freely out of both openings with the pus. Still, he did not hesitate to say that if he were to deal with such cases to-day he should prepare himself to open the abdomen.

An interesting case, with recovery, which had been under his care during the war, was also related by the President, Dr. C. A. Leale.*

ORIGINAL CORRESPONDENCE.

"FIVE OF A KIND."—A NEWSPAPER STORY THAT WAS TRUE.

BOWHORN, FANNIN COUNTY, TEXAS.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: In the article entitled "Five of a Kind," in the Miscellaneous Department of the JOURNAL for January, 1886, you are inclined to think the report of five children at one birth, as given by the *New Orleans Times-Democrat*, decidedly fishy. Mrs. Thompson, the mother, lives twelve miles from here, and, while I am not personally acquainted with her, I am with the physicians who delivered her of five children during forty-eight hours—Drs. Patterson and Henry, both of whom are reliable gentlemen. I have conversed with Doctor Patterson since the birth of the children, and I understood him to say that they were all dead.

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*This case will be published in full in the JOURNAL.

First Auditor Chenowith is a Fannin County man, and, Fannin County being very loyal to the present Administration, this would, no doubt, have induced Mrs. Thompson to name her children Cleveland, Hendricks, Bayard, Manning and Chenowith, had they lived long enough to be christened.

J. S. DORSET, M. D.

REVIEWS.

A DOCTOR'S EXPERIENCE IN THREE CONTINENTS. BY EDWARD WARREN, M.D., C. M., LL.D., BEY BY THE KHEDIVAL FIRMAN. Baltimore: D. T. G. Boyken, 1886.

No apology is needed on the part of Dr. Warren for giving this book to the public. If it is true, as most of us have come to believe, that the story of every man's life is worth the writing, and well repays the reading, then should this be particularly the case in the biography before us, for Dr. Warren's experience has been varied and eventful, and his narrative is given simply, and with a frankness which creates an interest and maintains it to the end.

It is not the purpose of this review to give such a synopsis of Dr. Warren's life as will satisfy the interest and curiosity of the reader, but rather to present a few specimens of his narrative, and it is hoped that this will create such an appetite for "more" as will induce each reader to purchase the book for himself. Let us, therefore, pass over the period of his early life in America, although the recital of his school and college record, and his connection with the Confederate Army, will be found to be most agreeable reading, and let us join him upon his arrival in London on his way to Egypt, to which country he had been invited by the Khedive. He says:

> In London I had the pleasure of meeting that splendid gentleman and great surgeon, Sir James Paget, to whom I carried letters of introduction from Professors Gross and Pancoast, of Philadelphia. He invited me to his house, introduced me to his family, and gave me a letter to Mr. Fowler, the English engineer, then employed by the Khedive in perfecting the great works of internal improvement to which he had devoted himself. Sir James has risen by the force of his genius and character to the most commanding professional position in England; and he is, at the same time, the very type of a finished gentleman.
>
> Since my residence in Paris I have renewed my acquaintance with him, and I am proud to be able to number him among the truest friends I have made upon this side of the Atlantic. His election to the presidency of the International Congress of 1881—to which I had the honor of being a delegate—is an evidence of the estimation in which he

is held by the medical profession of the world, and the able and eloquent address which he delivered on that occasion fully justified the wisdom of his selection for so distinguished a position.

I had always looked forward with pleasure to a second visit to Paris, but I found everything about it so changed by the hand of vandalism that the impression produced upon my mind was only a painful one. I had known the city in its days of imperial splendor—when it was incomparably gay and grand and glorious, and I found it draped in mourning, torn by internal dissensions, and marred by unsightly ruins. Between the Paris of '73 and that of '55 there was as great a difference as between a funeral dirge and a wedding march—a dilapidated brick and a diamond of the first water. Everything seemed radically and hopelessly changed, and I left it with a feeling of relief—a veritable surcease from regret and disappointment.

As a matter of economy we traveled from Paris to Brindisi as second-class passengers, which necessitated a halt at every station, as well as innumerable changes of trains. As we spoke scarcely a word of Italian, and no one seemed to understand either English or French, it has always been a mystery how we escaped starvation and reached our destination. Bread and wine were the only articles in the way of sustenance that our knowledge of Italian permitted us to ask for, and we only avoided being carried in wrong directions by crying out, "Brindisi! Brindisi! Brindisi!" at the top of our voices, whenever the train came to a halt. William's black skin collected a crowd at every station, and our frantic efforts to keep in the direct route created a sensation from the Alps to the Adriatic. The only wonder is that we were not arrested as lunatics, for I am sure we were taken for such at every station throughout the entire route.

After a pleasant voyage of four days over a waveless sea and beneath cloudless skies, we entered the harbor of Alexandria, where we found General and Colonel Reynolds—old Confederates and dear friends—waiting to welcome us, and bearing a message from General Loring "to come directly to Gabara."

After passing through the custom-house, we took a carriage, and drove, first through the city, and then about a mile into the country, to the General's residence.

He gave us a cordial welcome, and bade us make ourselves at home in Gabara. This palace had been one of the favorite summer homes of Said Pasha, the former Khedive of Egypt, and I can well understand his partiality for it. It is built in the Eastern style, only one story in height, with a rectangular central building, and a wing on either side—one for the *selamlik* and the other for the hareem. Its interior is gorgeous with mirrors, marble floors, panels of porphyry, mosaics, divans, carpets, and all that can be conceived of Oriental luxury, while a large veranda occupies its entire front, and a spacious garden lies behind it, filled with murmuring fountains, luscious fruit, and fragrant flowers.

The approach to it is through a spacious avenue skirted with mimosas, which unite in a canopy above, and embower it in perpetual shade; and spreading around it in every direction are large fields devoted to the cultivation of the date, the orange, the fig, and the almond. It is impossible to conceive of a lovelier spot, and one is reminded at every turn of the stories of the Arabian Nights, and feels as if he were really in fairyland.

This palace had been assigned to General Loring as his quarters when he was placed in command of Alexandria, and he lived there in princely elegance, with the two Reynolds—his aides-de-camp—and their families.

We received a cordial welcome, but found it difficult to sleep on account of the excitement incident to our arrival, and the strange emotions inspired by the novelty of the situation and the magnificence of the objects around us.

We took the train at eight o'clock on the succeeding morning, and reached Cairo in six hours and a half, the journey having proved an exceedingly interesting one because of the strange sights and interesting associations which presented themselves on every side.

We reached Cairo in the midst of what is known as a "*khampseen*," a wind which blows from the south and brings with it the dust and the heat of the desert. There is no spring-time in Egypt, but from the 1st of April until about the 20th of May, a period of fifty days, this wind prevails, giving one a foretaste of the infernal. *Khampse* is the Arabic word for fifty, and the wind which blows from the desert during this period of fifty days is called the "*khampseen*." After this most disagreeable season the direction of the wind changes, coming from the north, especially after sunset, and rendering the nights cool and refreshing.

During these storms the natives retire to their houses and carefully close their doors and windows, so as to keep out the dust and heat, and when compelled to breast them they cover their heads and faces with blankets, just as the inhabitants of colder regions do to protect themselves against the blasts of Boreas.

As I before informed you, a storm of this kind prevailed when we reached Cairo. The air was loaded with dense clouds of dust; a wind was blowing from the desert which felt like the breath of a furnace; and, from the debilitating influences of an atmosphere alike deficient in oxygen, filled with impalpable particles of sand, and heated above the blood-range, a feeling of nervous prostration was produced which seemed scarcely supportable. I felt as if I had been translated to the lower regions, and bitterly regretted ever having thought of Egypt.

Seeking, however, the shelter of the New Hotel, I retired to my room, threw off my clothes, called for a plentiful supply of artificial ice and palm-leaf fans, and made myself as comfortable as circumstances would allow, until the storm had spent itself.

This wind is not the "*simoon*," as some suppose. The "*khampseen*" usually prevails for about three days, brings with it a temperature of 95°, and is laden with the impalpable *dust* of the desert, while the "simoon" usually blows for about twenty minutes only, raises the thermometer to 100°, and is attended by clouds composed principally of sand.

The climate of Egypt during the greater part of the year is remarkably salubrious and healthy. The general height of the thermometer in the winter is from 50° to 60°—in the afternoons—in the shade. I never saw but one rain at Cairo, and, though it was only a passing shower, the natives regarded it as a deluge. Consumption is a common disease among the blacks from the interior of Africa, the climate being so much colder than that in which they have been reared

Speaking of Ismail Pasha, he says:

No man has been more abused than Ismail Pasha, and yet impartial history will place him in the first rank of rulers and statesmen. The utter ruin which has fallen upon his country since his abdication, compared with its prosperous condition when he controlled its destinies, speaks with a trumpet's tongue in his behalf. Forced to abdicate because his genius and patriotism were stumbling-blocks in the way of England's "foreign policy," a systematic effort has been made to traduce him, in order to demonstrate the wisdom of his removal. But the great work which he did in Egypt, together with the complete chaos and demoralization which have followed his removal, will eventually be accepted as his vindication; and the time will come—and speedily—when his restoration to power will be regarded as the only practical solution of the Egyptian question, as the sole means of re-establishing peace and prosperity to that distracted country.

It is also very interesting to read that

> Arabi Pasha has been accepted as a patriot and a hero by those who are ignorant of his character and misinformed in regard to the real condition of Egypt.
>
> Circumstances, it is true, gave some color to his pretensions as an apostle of liberty and the champion of an oppressed people, but he is intrinsically corrupt and incapable of a sentiment untainted by egotism and selfishness.
>
> It is said that he was once drummed out of his regiment for peculation, and, though he is a bold man, his character is polluted by vices of the lowest and the most degraded nature. The people rallied round him because of his agrarian principles, and from the conviction that he desired to establish a *régime* more decidedly Egyptian than that of the Khedive himself, that is to say, more bigoted, contracted, and fanatical than is possible under the existing order of things.
>
> Had Ismail reigned at the time, there would have been no necessity for English intervention, for, with the first overt act of rebellion, Arabi would have been sent to rusticate in the arid wastes of the Soudan or to feed the fishes of the Nile nearer home.

The history of his first Egyptian consultation is thus given:

> My first important patient was the assistant minister of war, to whom I was sent by a formal order from the ministry.
>
> On arriving at the sick man's house, I found a number of physicians assembled, as a formal "consultation" had been commanded, and I thus had an opportunity of learning the meaning of that term as it is understood in Egypt. After an exchange of compliments and a cup of coffee, we were ushered into the sick chamber, and each physician —beginning with the youngest and ending with the eldest—proceeded to make such an examination as his judgment suggested. We then adjourned to the garden, where an exchange of views was had. Each doctor in turn—beginning again with the youngest—gave a lecture on medicine generally, parading all the knowledge which he possessed, but scarcely touching the case, and ended by declaring that the "patient was paralyzed, and should be blistered and given calomel."
>
> When my turn came, I declined to say a word until I had heard from all the rest—putting it upon the ground of politeness—and finally astonished them by the announcement that the Pasha was not paralyzed in the least, but was suffering from rheumatism accompanied by great prostration, and that the treatment indicated was the iodide of potash and proper nourishment. With one voice they exclaimed: "Not paralyzed! He can't move a muscle. Rheumatism! He has not a symptom. Nourishment! He will die if you attempt to feed him."
>
> I then invited them into the chamber, and, by much persuasion, induced the patient to change the position of each limb by an effort of will, pointed out the symptoms of rheumatism which were present, and told them that, "if a patient who had been purged with salts and fed exclusively on a soup made of vegetables for two weeks did not require nourishment, I knew nothing of medicine." They then, to a man, apparently changed their views, agreed with me entirely, and, promising that my plan of treatment should be faithfully pursued, invited me to meet them again at the same hour on the succeeding day. I was triumphant; I thought my victory complete; and I believed that I had saved the Pasha from the grave to which his medical attendants were fast consigning him
>
> On the following day I repaired to the Pasha's house, ready for the "consultation," and believing that I should be able to point out decided evidence of improvement in his condition. Judge, therefore, of my surprise when I discovered not a sign of life about the

premises, when no doctors put in an appearance, and when I ascertained that the invalid and his entire family had been spirited away, no one could tell me whither.

The pretended change of views among the doctors, the proposition to meet them in another "consultation," and the removal and concealment of the patient, were all parts of a cunning *ruse* to get rid of me and to treat the Pasha according to their own ideas.

It was in vain that I appealed to the minister of war; for my *confrères* had forestalled me, and convinced his Excellency the course pursued was necessary for the invalid's safety—that my plan of treatment involved his certain death, and justified the employment of the most extreme measures to keep him out of my hands. Such is medical etiquette on the banks of the Nile. This was their day of triumph—mine came afterward.

A short time subsequent to this event I was summoned hurriedly to a "consultation" at the house of Kassim Pasha—the patient being no less a person than the minister of war himself. He was suffering from hernia, the intestine having descended into the scrotum and become incarcerated there. I advised that he should be put under the influence of chloroform, that taxis should then be attempted, and that the operation of herniotomy should be instantly performed if all other means failed to effect reduction. My advice was rejected of course, and I immediately retired. Three days afterward I was again summoned, to find that reduction had not been effected and that symptoms of strangulation—stercoraceous vomiting and great depression—had manifested themselves.

After a thorough examination of the case, I became convinced that the incarcerated intestine was not materially injured, and that much of the depression was due, not so much to the disease, as to the injections of tobacco which had been liberally employed to induce relaxation; and I boldly declared that the Pasha could be saved, as desperate as his condition seemed. Having stimulated him freely with brandy and water—which the natives considered unholy treatment—I had the gratification of seeing some reaction established; and I determined to administer chloroform, and then either to reduce the tumor by taxis, or to perform herniotomy, as the circumstances required. I found, however, great difficulty in inducing any medical man to assist me. They all retired, and declared that they would have "nothing to do with the murder of the Pasha." The hareem, through the chief eunuch, insisted that I should not proceed until the private physician of the Khedive—a Frenchman—had given his consent. He was accordingly sent for, and asked what he thought of the measure which I had proposed. He replied that "he believed the Pasha would die inevitably, but was in favor of permitting me to proceed, as every man was entitled to his chance. I then requested him to aid me to the extent of administering chloroform. This he agreed to do on condition that I would assume all the responsibility of the case, and give him time to dispatch a messenger to the Khedive to inform him upon what terms he had consented to aid me. In the presence of all the principal pashas, beys, and officials of the court, the minister was removed from his bed and placed upon a mattress in the middle of the room. None of the female portion of the house were present; but they were represented by the chief eunuch, who stood at the feet of the invalid, shouting, "Allah! Allah! Allah! Inshallah! Inshallah! Inshallah!", while from the latticed hareem in the rear there came continually that peculiar wail which seems to form the principal feature in the mourning of the East. With the exception of the French physician, all the surgeons deserted the chamber and stood in the little garden outside of the house—some praying that the sick man might be saved, but the majority cursing the stranger who had the temerity to undertake that which they had pronounced impossible.

Having made all the preparations necessary to perform herniotomy, should that operation become necessary, I boldly administered chloroform, although the patient was in a state of great depression. To my delight anæsthesia was promptly developed, while the circulation improved with every inspiration—just as I had previously observed in some cases of shock upon the battle-field. Confiding the administration of the chloroform to the French physician, I then proceeded to examine the tumor and to attempt its reduction. I found an immense hydrocele, and, by the side of it, a hernia of no unusual dimensions, which, by a rather forcible manipulation, I completely reduced after a few moments of effort. By this time the surgeons, unable to restrain their curiosity, had entered the room and crowded around the couch of the sick man, anxiously awaiting the failure which they had so blatantly predicted. Turning to Mehemit Ali Pasha, the Professor of Surgery in the medical school of Cairo, I said to him, " The hernia is reduced, as you can determine by pushing the finger into the external ring."

" Excuse me," he said, in the most supercilious manner, " you have undertaken to cure Kassim Pasha, and I can give you no help in the matter."

My French friend immediately introduced his finger into the ring and said: " Gentlemen, he needs no help from any one; the hernia is reduced, and the Pasha is saved."

The doctors slunk away utterly discomfited, the eunuchs, pashas, beys, and officers uttered loud cries of "Hamdallah! Hamdallah! Kismet! Kismet! Kismet!", and the hareem in the rear, catching the inspiration of the scene, sent up a shout of joy which sounded like the war-whoop of a tribe of Indians.

In a moment I was seized by the chief eunuch, embraced in the most impressive manner, and kissed on either cheek—an example which was immediately followed by a number of those present—and I found myself at once the most famous man in Egypt.

His unexpected removal to Paris, and his life there, cannot be referred to here; but this portion of the book also will be found of remarkable attractiveness. Success and sorrow, strangely intermingled, make of this real life at once a tragedy and a triumph—and the interest is maintained to the end. May the real end be far off, and many years of happiness, with fewer " experiences," be held in store for Dr. Warren-Bey.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY AT ITS SEVENTH ANNUAL SESSION, HELD AT NEW ORLEANS, LA., APRIL 21, 22, AND 23, 1885. New Orleans: 1885.

After the record of the proceedings, and the reports of the various officers and committees, came the excellent address of the President, Dr. R. H. Day, on the " Mission and Methods of Medicine," and of Mr. W. H. Goodale, the appointed orator for the year, on "The Blameless Physician." In the former occurs the following passage in regard to preventive medicine:

"As the practical outcome of the scientific study and investigation of the nature and laws of infectious and contagious diseases, we have prominence now given everywhere, in all enlightened countries, to hygiene, sanitation, and preventive medicine, and, as a natural result, wiser and better methods of sanitation and disinfection employed, and more rational and sensible systems of quarantine and disinfection adopted, to prevent the introduction and spread of importable diseases, giving security to communities, without seriously obstructing or interfering with inter-state or inter-national commerce.

"A happy illustration of this, I am proud to say, is here upon your own soil—in your own city—at your own doors, in the new system of quarantine and disinfection so ably presented and elucidated by the present President of the "Louisiana State Board of Health," and needs only the support of our State authorities and the good people of New Orleans in supplying the "sinews of war" to put it into practical operation, to secure to you, and to the inhabitants of the Mississippi Valley, almost absolute safety against all importable infectious and contagious diseases, and thus augment your commerce and prosperity, and make your city the Queen of the South, and the great commercial emporium of this great nation."

In a paper on "The Long-continued Fevers of Louisiana That Resist Quinine," Dr. Rudolph Matas makes the statement, which he believes to be sanctioned by experience, that the more continued the type of a fever, the more difficult it is to control by quinine; or, in other words, the more a fever departs from the typical manifestations of malarial toxæmia—the intermittent type—the more difficult it is to cure by the exhibition of the antiperiodic salt. He gives the following list, in the order of their rebelliousness, of the continued fevers which are recognized as fevers which resist, to a greater or less degree, the antipyretic influence of quinine: 1, yellow fever; 2, typhoid fever; 3, dengue; 4, typho-malarial fever, so-called; 5, the so-called continued malarial fever; 6, simple continued or ardent fever; 7, malarial remittent with gastro-hepatic or other organic complications ("bilious fever"). The fifth and sixth of these he believes are in many instances due to one and the same cause, and this *not* the malarial poison. They constitute the purest type of the essential fever that has come under his observation. "This is," he says, "a form of fever which extensively prevails in our midst in summer, and is commonly styled either "continued malarial fever," "typhoid fever," or even "typho-malarial fever," whenever the practitioner is hard pressed for a diagnosis, these various appellations being given to it simply to account satisfactorily to the laity for the protracted duration of the sickness, and not because there is much, if indeed anything, of either the malarial or typhoid about its clinical history to account for such misguiding appellations. In this fever quinine is absolutely as valueless as it is in pure yellow fever or typhoid fever. I have given this salt faithfully in every case that I have had occasion to treat, first as an anti-periodic or specific remedy to test the relations of the condition to malaria, and have in each instance failed to produce any marked impression. I have then continued the administration of the alkaloid simply as an antithermic, and in this, after the most faithful trial, I could not have been more disappointed, as almost any other antithermic remedy has been far more effective and beneficial to the patient."

The "continued thermic fever of the tropics," described by Dr. John Guiteras, of the U. S. Marine Hospital Service, is, he believes, the exact equivalent, clinically, of the type of the class of fevers he recognizes in Louisiana as the long-continued fevers which resist quinine. He then quotes Dr. Guiteras as follows: "There is undoubtedly a peculiar predisposition to fever in the inhabitants of the tropics [this is likely the case with our own quasi-tropical population]. The slightest ailments, especially among children, are, during the summer months, very frequently complicated by fever. * * * Now this symptom-fever may become the sole feature of the case—a truly essential fever of long duration, which it becomes necessary to differentiate from typhoid fever and malarial fever."

Dr. Matas finds that his experience with the fevers in question corresponds with that of Dr. Guiteras at Key West, Florida. In the present state of our knowledge he thinks the most satisfactory test as to whether a fever is malarial or not is afforded by the exhibition of quinine. He says: "It is natural, therefore, that we should conclude that whenever the reagent (quinine) fails to produce the customary reaction (cessation of the toxic phenomena), that the poison is a different one. For this reason and with a due appreciation of the influence of complications in interfering with the test power of quinine, I have come to the conclusion that when any essential fever (*i. e.*, a fever free from organic complications) is not affected, or controlled, by the thorough and systematic administration of the salts of quinine, that it is not a malarial fever."

The nature of this non-malarial continued fever must still be regarded as problematical, but, in the writer's opinion, the explanation offered by Dr. Guiteras that the fever is due to exhaustion of the heat, inhibitory centres in the sickly and over-worked, during the summer of the tropics, appears the most satisfactory. The conclusion of the paper is devoted to some remarks on antithermic treatment, by kairin, antipyrin, salicylate of soda, cold bathing and sponging, etc.

Another paper of much interest is one by Dr. I. J. Newton, Jr., on "Hemorrhagic Malarial Fevers." The number of papers printed in the Transactions is small, though they are, for the most part, of considerable value. The volume also contains the Regulations of the State Society, proposed regulations for Parish medical societies, the code of ethics, and additional ordinances of the American Medical Association, list of members, officers, and members of affiliated societies, etc.

LOCAL ANÆSTHESIA IN GENERAL MEDICINE AND SURGERY: Being the Practical Application of the Author's Recent Discoveries. By J. Leonard Corning, M.D., formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, etc. New York: D. Appleton and Company, 1886. Pp. 103.

This little work is divided into two parts. The first, "historical and preliminary," treating of cerebral anæsthesia, coca, and cocaine, and the record of the author's method of local anæsthetization, which he first announced to the profession in the *New York Medical Journal* of September 19, 1885. In this preliminary essay he gives the following summary of the experiments which he made to secure the prolongation of the anæsthetic effects of the hydrochlorate of cocaine when subcutaneously injected :

> Experiment I. goes to show that simple arrest of the circulation in the part, shortly after injection of the anæsthetic, is sufficient to prolong and intensify the anæsthesia.
>
> Experiment II. shows that, if the injection is made *after* exsanguination and compression, there is little diffusion of the anæsthetic, and, consequently, a commensurate diminution in the number of nerve-filaments exposed to the influence of the solution. It is true, however, as we have seen, that by the aid of massage some purely mechanical diffusion may be produced.
>
> Experiment III. seems to prove that, if the injection is made a few moments before exsanguination and the application of the tourniquet, a sufficient amount of saturation of the tissue is obtained to expose a large number of nerve-filaments to the influence of the anæsthetic ; and yet, unless we wait too long, there is no danger of diluting or dissipating the solution (by the access of too much blood) to such a degree as to weaken or nullify the anæsthetic influence.
>
> The essential advantages of this method of local anæsthetization consist in our ability to expose the nerve-filaments for any length of time to the influence of the anæsthetic. We are thus practically able to prolong the anæsthesia to an indefinite degree. We are furthermore enabled to do this by the use of comparatively small quantities of cocaine, repeated injections being unnecessary to prolong the anæsthesia, as is necessary when the circulation is not arrested. There is, consequently, no danger of constitutional disturbances from overdosing. It is clear that this method may be applied in the surgery of all the extremities ; and in the treatment of neuralgias and other disorders of the peripheral nervous system it is, I believe, destined to render good service.

To this he now adds that, as his experience has become more extended, he has felt constrained, all things considered, to give preference to the method detailed in experiment III. Instead, however, of applying the Esmarch bandage for exsanguination after injection, he applies it before introducing the anæsthetic into the part—that is to say, he winds the bandage, beginning with the distal extremity of the limb, and continuing until the point which he wishes to anæsthetize is reached. The bandage is then held firmly while he makes the necessary number of injections. Then, making a long fold with the bandage, so as to strip the injected zone, he continues winding until the point is reached where he wishes to apply the tourniquet. The object in having the injected zone free from the bandage is to avoid pressing away the anæsthesia.

Chapter V. gives minute directions concerning the practical execution of this method of local anæsthetization, and Chapter VI. explains the incarceration of the anæsthetic by means of rings, or the prolongation of the duration of cutaneous anæsthesia by interrupting the circulation in the superficial veins. In Chapter VII., on local anæsthesia in bone surgery, are given the successful results accomplished with it by Dr. M. J. Roberts in operating upon bones and joints, and by Dr. J. R. Conway in fractures and dislocations. Chapter VIII. treats of the prolonged duration of the anæsthesia after the removal of the tourniquet, consequent upon the protracted contact of the anæsthetic with the filaments of the sensory nerves, Chapter IX. of operations upon soft tissues performed by Dr. Wright, Professor of Surgery in the Medical Department of the University of the City of New York, and Chapter X. of the influence of cocaine upon the healing of wounds.

The final chapter, which was originally published in the *New York Medical Journal* of October 21, 1885, treats of spinal anæsthesia and local medication of the cord. There is also an appendix which contains reports of operations by Dr. Weir, Clinical Professor of Surgery in the College of Physicians and Surgeons of New York, and of additional operations by Prof. Wright, together with some remarks on the prevention of constitutional symptoms.

The latest contribution to the practical value of Dr. Corning's discovery is the case of successful amputation of the thigh under anæsthesia induced and kept up by confined injections of weak cocaine solutions by Dr. Varick, of Jersey City, an account of which is given in the present number of the JOURNAL. In commenting on this case the *New York Medical Journal* says: "It will be seen that the section of the bone was not painless, and perhaps this difficulty will prove troublesome if not impossible to overcome; but, even should this turn out to be the case, the method must still be conceded to be a precious resource in cases where, as in that of Dr. Varick's patient, there are grave objections to the employment of general anæsthesia. It is far better that some sharp pain should be felt during the brief time it may take to saw through a bone than that a patient's life should be jeopardized by general narcosis."

From the results which have already been obtained, it cannot be doubted that Dr. Corning is entitled to distinguished honor for a discovery of essential service to the profession and to humanity, as well as for the earnest scientific research and study of which that discovery has been the direct fruit.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By the late Charles Hilton Fagge, M.D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital; Examiner in Medicine in the University of London; Senior Physician to the Evelina Hospital for Sick Children, etc. Edited by P. H. Pye-Smith, M.D., F. R. C. S., Lecturer on Medicine at Guy's Hospital, Including a Section on Cutaneous Diseases, by the Editor, Dr. Pye-Smith; Chapters on Cardiac Diseases, by Samuel Wilkes, M.D. F. R. S., Physician to Guy's Hospital and to the Royal Hospital for Children, London; and Complete Indexes, by Robert Carrington, M.D., Assistant Physician to Guy's Hospital, London.

Volume II., Philadelphia: P. Blakiston, Son & Co., 1886. Pp. 883.

The second volume of Dr. Fagge's great work, which has just been issued in this country, contains the sections on diseases of the heart and blood-vessels, of the alimentary tract, of the liver, of the blood, and of the bones, and on general diseases affecting the joints. The first of these was left incomplete by the lamented author at the time of his death, and a number of chapters have therefore been supplied by Dr. Wilkes. A detailed notice of this second volume is at present impossible; but, like the first, it will be found to be a priceless storehouse of pathological and clinical research. The whole work affords ample evidence of the exceptional attainments, as well as the zeal and industry of its distinguished author, and in no portion is this more satisfactorily demonstrated than in the chapter on Bright's Disease, of which it can only be said that it is not unworthy of a successor at Guy's Hospital of the illustrious physician whose name the various renal affections grouped under this designation still bear. As mentioned in the notice of the first volume, the least satisfactory point about the work is the brief and sometimes quite inadequate way in which the matter of therapeutics is apt to be treated. As mentioned in the title-page, this volume also contains a section on contagious diseases by the editor, Dr. P. H. Pye-Smith. This is excellent in every way, and well deserves to be published as a separate treatise. The frequent reference to the work of American dermatologists in it is particularly noticeable. The indexes of authors and subjects, by Dr. Carrington, are copious and admirable; and the whole work is appropriately concluded with an appreciative memoir of Dr. Fagge.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EAR. By OREN D. POMEROY, M.D., Surgeon to the Manhattan Eye and Ear Hospital; Ophthalmic and Aural Surgeon to the New York Infant Asylum, etc. With One Hundred Illustrations. Second Edition Revised, with Additions. New York: D. Appleton and Company, 1886. Pp. 413.

The first edition of this excellent text-book, which was published somewhat more than two years ago, has been exhausted, and the author has taken advantage of the opportunity of preparing a second edition, with new publishers, to thoroughly revise it, and make such additions as seemed likely to add to its value. Not the least of the qualifications which have enabled Dr. Pomeroy to produce so satisfactory a work of the kind is his exceptionally large experience in the department of otology, and the pages of his treatise bear constant testimony to its extent and varied character. The matter is well arranged and thoroughly practical, and as a compact and most useful text-book the work has already won the appreciation of the profession. In the present edition, which is neatly though not expensively gotten up, some new woodcuts have been added, while many of the old ones have been re-engraved.

MISCELLANEOUS.

THE TREATMENT OF OBESITY.—Starvation, semi-starvation, surcharging, "banting," alkalies, purgatives, Turkish baths, exercise, and the thousand and one ways of reducing corpulency to respectable dimensions, still leave a large section of our stout population in despair. M. Germain Sée comes to the rescue and solves(?) the difficulty with his accustomed dash and skill. "Oh, ye massive fat ones desiring to be made lean, eat not much meat, but drink enormously of tea." That is M. Sée's good news put in a nutshell. That is the cry now to be heard in the Parisian wilderness of fat. Obese individuals may suffer from shortness of breath from many causes, writes M. Sée, and infiltration of the muscles with fat is an important one. There are many ways of reducing the fat. The first is by diet; the second by moderating the imbibition of fluid; the third by muscular exercise; and there are also balneotherapy or bathing, and treatment by medicaments. M. Sée does not approve of "banting," as it takes too long; and, further, he argues that proteids such as meat, eggs, etc., are productive of fat. Ebstein has recently advocated "banting" combined with some fatty food; but our author does not fall in with this method. Stout people do not bear bleeding well, although this was the treatment in vogue in the sixteenth and seventeenth centuries. Iodides, alkalies, and diuretics are not well borne by fat persons. Moreover, these medicines, when they reduce obesity, do so by destroying, or at least damaging, the organs on which the nutrition of the body depends.—*Lancet.*

Medical Women for India.—It is hardly possible to exaggerate the importance of the movement set on foot by Lady Dufferin for the supply of medical women for India. For many years past, lying-in hospitals have been supported by Government in connection with the medical college of the Presidency towns, under the superintendence of the professors of midwifery in the colleges. An immense amount of good has been done in these hospitals, not only to the pupils in the medical schools of India, and in training nurses, mostly of Eurasian birth, for the European community in the cities and military cantonments of India, but also to the native women of the poorer class, who receive the benefit of scientific and humane treatment in the hospitals. It is needless to say that the benefit to be derived from such hospitals is almost entirely confined to the poor native women of caste, as Mahomedan families of rank cannot enter our hospitals without degradation. In the chief cities of India they can have the services of well-trained nurses, and in some cases perhaps even properly qualified medical women; and I have no doubt they avail themselves of such aid to a considerable extent. But in other parts of India, where no such assistance can be obtained, pitiable in the extreme is the case of unfortunate women of all ranks when they are the subjects of any of the so-called "accidents" of childbirth. For more than ten years of my service in India, I was attached to the Political Residency of Hyderabad, in the Deccan, close to the great city of that name. I had too many opportunities of becoming acquainted with the enormous amount of suffering and the great mortality among lying-in women of all ranks. It is not too much to say that in nine cases out of ten death follows every such "accident." The native midwife is invariably a woman of the lowest class, and profoundly ignorant of the art she professes. In my time it was an event of weekly occurrence to have poor women brought to the Residency Hospital, mostly in a moribund condition, frightfully injured by the violent attempts at delivery on the part of their ignorant attendants. On many occasions I have found the uterus ruptured from cervix to fundus, and the fœtus in the abdominal cavity. Of those who escape death during or immediately after delivery, numbers perish from tetanus, the outcome of the violence used. Very little better is the fate of women in the zenanas of men of rank. Everyone knows of their jealous seclusion. It is true that in most cases if a physician be asked to prescribe for a Hindoo woman of rank he is expected to do so after a few questions addressed to her behind the *purdah*, with, perhaps, permission to feel the pulse of the patient. This no doubt is the rule among high-caste Hindoo women, who would, in most cases, die rather than allow a man to assist them in labor. In the city of Hyderabad I have, in a few cases, been called in the darkness of night, and introduced, by private doors, into the zenanas of Mahomedan noblemen, to render assistance to favorite women in difficult labor; but in not a single instance in time to save life. With such experience of the crying need for duly qualified medical women for India, I hail, with the utmost satisfaction, the movement now being carried out under the powerful auspices of the wife of the Viceroy of India. Lord Dufferin is one of the ablest of the many able men to whom England has committed the government of India, and we look confidently for wise measures of administration at his hands; but of this I am sure, if success crowns Lady Dufferin's efforts to mitigate the terrible sufferings of Indian women "laboring of child," her name will be gratefully remembered when that of many an ambitious governor-general has perished.—W. C. Maclean, M.D., Surgeon-General, in *British Med. Jour.*

THE POWER OF THE IMAGINATION.—There is the story of the French criminal who died because he believed he was being bled to death, while in reality his arm was only pricked, and a sound of trickling water made to imitate the noise of the blood flowing forth. In the same way it is recorded how Mr. Loutherbourg cured large numbers of patients by attacking the imagination. Among those who had visited him was a man who had been troubled with great pains and swellings, particularly about the loins, so that he could not walk across the room. On entering, Mr. Loutherbourg looked steadfastly at him and said: "I know your complaint, look at me." They continued looking at each other some minutes; then Mr. Loutherbourg asked if he did not feel some warmth at his loins, whereupon the man replied that he did. "Then you will feel in a few minutes much greater warmth." After a short pause the man said: "I feel as if a person were pouring boiling water over me." Still looking in his face, Mr. Loutherbourg said: "How did you come here, sir?" "In a coach." "Then go and discharge your coach, and walk back to town." The coach was discharged, and the patient walked back to town, and next day he walked five miles about town without fatigue. Similarly, Sydney Smith relates how the banker-poet Rogers caught a bad cold simply from imagining a window to be open, but which all the time was shut. It was at a dinner party and the great sheet of plate glass had deceived Rogers, who was sitting in what he thought to be a dangerous draught. To quote a further case: Dr. Sigmond relates how a poor woman, having applied to a physician for a cure of an affection of the breast, he gave her a prescription, which he directed should be applied to the breast. She returned at the end of a few days to offer her grateful thanks for the cure which he had effected; but on making inquiry as to the mode of action he ascertained that his patient had very carefully tied the prescription round her neck. Faith cures of this kind are of constant occurrence, and we know how many persons, when suffering from maladies connected with the brain or nervous system, have been restored to their normal state of health by simple faith. Thus, startling effects have occasionally followed the swallowing of such make-belief remedies as pills composed of bread or sugar. This accounts, therefore, for the cures which were wrought in days gone by, even when medicine was in a backward state, and the most absurd prescriptions were often given to patients suffering from nervous diseases.—*The Gentleman's Magazine.*

A RARE BOTANICAL SPECIMEN.—It is related of Sydney Smith that he had among his acquaintances a lady extremely addicted to the use of long words, and very ambitious as to her social status. One day, while she was displaying to the great humorist the treasures of her conservatory, he said, looking around him as if for some expected pleasure, "But have you not the Papilloma Laryngis"? to which she sweetly replied, "Ah, no! I had it in the spring, and it bloomed beautifully, but I sent it to my friend, his Grace of Canterbury."

The Carlyle Memorial Tablet, recently set up in Cheyne-row, Chelsea, could not be placed on the house so long inhabited by the Scotch sage. It was found impossible to obtain the necessary permission. It is remarked as not a little curious that the house of this great denouncer of quacks should now be the property of the proprietor of a quack medicine. Perhaps the reason for the refusal grew out of the quack proprietor, after buying the house, taking to reading Carlyle's works for the first time from simple curiosity, and suddenly coming upon the Cagliostro essay, or some other work in which quacks are lashed with fury.

The Baby Has Come.—A Chicago telegraph operator thus relates some of his experiences with youthful paterfamiliases:

> "Do you know that few people outside the doctors and the telegraph receivers realize how many babies are born in the world? Why, there isn't a day, Sundays included, that I don't handle from 15 to 25 'baby telegrams,' as we call 'em. By these I mean telegraphic announcements of the advent of little strangers. There's a good deal of human nature in these messages. Of course, they are usually sent to the little one's grandparents, and they take on all shades of exuberance, from the wildly exalted ecstasy of a first-born, to the cold, formal, and not infrequently disgusted announcement of the sixth. I will say, however, that after the second or third event of the kind the lightning is not drawn on so recklessly. The slower process of the mails is considered enough for the emergency. The coming of the first, however, is as sure to bring out an excited telegram as the sun shines. It is great fun to watch the senders of these first baby dispatches as they prepare them. A young father comes in with a hurried step and an exultant, beaming face. He grabs a blank and dashes off something like this: 'Great news! Mary very ill. Fine boy!' Then he tears that up. Somehow he doesn't want the rude telegrapher to know the name of the gentle but happy sufferer, and he tries it again: 'Expected event realized: a little girl; wife doing well.' 'But, pshaw!' he says, 'that's rather a cold way to speak of her to her own father and mother. Wife, why of course she's wife; but I do not like that,' and he tears it up. Then he starts again, and this time he says: 'Confound the telegrapher, he shan't know anything about it,' and he writes: 'It has come—eight pounds—female. Mother all right.' He looks at it a minute, and then tears it up, with the remark: 'They won't know whether that means a Jersey calf or a Hambletonian colt.' By this time the young man has got into a sweat, and grabbing a pencil, he dashes off; 'It's a girl. Mother doing nicely,' and after looking at that five or six minutes, and maybe with a moistened eye, he signs his first name to it and hands it in. They are all about alike, these first young fathers. They're proud and happy and conscious, and yet they will do almost anything to conceal their identity. Sometimes the young man comes in showing signs that the great domestic event has been too much for him, and then I have to take the pencil and help him out, and I do it in a practical way. I get the address and I simply write: 'The little stranger is here. It is a girl (or boy.) Mother well,' and then the man pays his half dollar and nearly pulls me through the window in his fierce desire to have me go and give the baby a bath. There is great fun in a telegraph office when the baby business has been particularly good, I can tell you."

A New Doll.—Fanny is a little girl who has a big wax doll as a companion. A few days ago a new sister came to her house, and after a few days she went over to a neighbor's. "Well, Fanny," said the lady, "where's your wax doll?" "Oh," she answered, turning up her nose, "I don't have nothin' to do with wax babies any more. We've got a meat baby at our house now, and that takes up all my time."—*Merchant Traveler.*

A Friendly Caution.—Sick Husband—Did the doctor say that I am to take all that medicine?

Wife—Yes, dear.

Sick Husband—Why, there is enough in that bottle to kill a mule.

Wife (anxiously)—Then you had better be very careful, John.

The Modern Child's Nurse.—Lady (to applicant)—What wages will you expect as nurse? Applicant—How ould is the babby, Mum? Lady—Seven months. Applicant—Widout laudanum, Mum, $2.50 a wake; wid laudanum, $2.—*Harper's Bazar.*

THE BURGLAR AS A BENEFIT TO THE COMMUNITY.—W. S. Gilbert, in the London *Times*, says: "For my part, I could never quite understand the prejudice against burglars. An unarrested burglar gives employment to innumerable telegraph clerks, police officers, railway officials, and possibly also to surgeons, coroners, undertakers, and monument masons. As soon as he is in custody, the services of a whole army of solicitors, barristers, judges, grand and petty jurymen, reporters, governors of jails, and prison warders are called into requisition. Really, the burglar does more good than harm."

TREATED QUITE ENOUGH.—"Good morning, Mrs. Gilligan; how is Patrick this morning?" "Sure he's no better, Sir." "Why don't you send him to the hospital to be treated?" "To be treated, is it? Faith an' it's the delarium trimmins he has already."

A REMARKABLE SHOT.—At the recent celebration of the 250th anniversary of the founding of Saybrook, Conn., the Rev. J. E. Bushnell related some incidents taken from the diary of a doughty settler by the name of Tully, one of which was the following: According to Tully's diary, he was, during the Revolution, left to guard some provisions which the settlers were withholding from the British. Eight soldiers came to take them from him. He let the men break down the door, and then blazed away with his flint-lock rifle, aiming directly at the waistcoat of the leader. To his surprise the man never halted, but the soldier next behind him dropped dead in his tracks. Tully attacked a third man with a bayonet, nearly killed him, and then rushed for a fourth. Meanwhile the man he had first aimed at was getting out of the window with a chest of tea. Tully shouted, and that man dropped dead also. The other fellows, thinking that Tully was possessed of the devil, ran away with their wounded companion. Tully found, so the diary said, that the bullet had passed clean through the first man without his noticing it, killing the man behind him instantly. After the first fellow had been running around for a while he discovered that he had been shot and dropped dead too.

CRANIAL SURGERY ON ELECTION DAY.—"Have you voted?" "Yes." "And you didn't get your head broken?" "Not I! Why do you ask such a question?" "Because I hear there are a great many polls opened on election day."—*Boston Budget.*

A SPLENDID ASSORTMENT.—At one of the large retail clothing stores on Washington Street an old lady, accompanied by a six-footer of a boy, both fresh from rural parts, appeared. The old lady inquired: "Have yew an ulcer overcoat tew fit this lad?" "Yes, ma'am," replied a pert salesman, "we have ulcers, varioloids, typhoids, and all the fashionable styles." "Dear me," remarked the aged woman, "I think I have made a mistake. Ain't this the General Hospital? Come, Nathan, let us go tew some clothing store." And away they went to the chagrin of the would-be witty clerk—*Boston Budget.*

A LIBERAL OFFER.—The editor of a newspaper in this State thus appeals to his delinquent subscribers: "To all those who are in arrears one year or more, who will come forward and pay up arrearages and for a year in advance, we will give a first-rate obituary notice gratis in case it kills them."—*The Sunny South.* A good many medical journals would be willing to do the same thing.

ADULTERATED DRUGS IN 1793.—Upon a tomb in Kent County, Del., is inscribed the following:

"In memory of
MARY BARKER,
Wife of Joseph Barker,
Eldest daughter of His Excellency Thomas Collins, Esq., late Governor of Delaware, Died Dec. 7, 1793.
Aged 30 years, 27 months, and 2 days.

"Her death was occasioned by taking Peruvian bark adulterated with litharge, which was purchased of an apothecary in Wilmington. She was an affectionate wife, a tender mother, and a kind mistress, beloved and regretted by all her friends and acquaintances. She left her husband, two sons, and two daughters to lament her untimely death."

MEDICAL NEWS.

PROPOSED ABOLITION OF THE HEALTH OFFICER'S FEES.—The following bill has been introduced into the New York Legislature: "From and after the passage of this act the salary of the Health Officer of the Port of New York shall be $10,000 per annum, and that of the First Assistant Health Officer $3,000 per annum, and that of the Second Assistant $2,000 per annum. The said Health Officer shall be allowed, in addition, for the expenses of the office, the sum of $6,000 per annum, to be expended under his direction.

"From and after the passage of this act, no fees or charges whatever shall be collected by said Health Officer in the performance of his duties."

MULTIS ILLE BONIS FLEBILIS, OCCIDIT—ALBANY, Feb. 12.—Dr. James A. McCaughin, one of the volunteer staff at the penitentiary during the typhus epidemic, who was stricken with the disease about two weeks ago, died this morning and was buried to-day. Dr. McCaughin was about 25 years of age. He is the second doctor who has fallen there in the discharge of his duties.

BUFFALO MEDICAL COLLEGE.—There were 43 graduates at the commencement of this school, which was held February 23.

STATUE OF CLAUDE BERNARD.—On Sunday, February 7, the statue erected in honor of M. Claude Bernard was placed on its pedestal, occupying a commanding position in the garden in front of the College de France. Several eloquent and appreciative addresses were made by M. Bert, the President of the Subscription Committee; by Professor Chauveau, who represented Lyons, Bernard's birth-place; and by M. Dastre, who represented M. Bernard's most recent pupils. M. Guillaume is the sculptor. The house in which Bernard lived and died is exactly opposite the standing place of the statue.

JUMBO STUFFED.—The skin and skeleton of the late lamented Jumbo have been mounted by Prof. Henry A. Wood, of Rochester, for Barnum's show, and will hereafter follow the itinerations of that concern, as did their living possessor. Examination of the skeleton showed that Jumbo, although 24 years old at the time of his death, was still a mere child, and not yet full grown, for the soft cartilages of his joints were unossified. The skeleton as articulated weighs 800 pounds, and is exhibited separate from the skin, which is stretched over a frame-work. The skin is from half an inch to an inch and a half in thickness, and weighs 1,538 pounds. This is said to be the largest skin ever preserved by taxidermy.

ST. FRANCIS' HOSPITAL, JERSEY CITY.—The Thirteenth Regular Report of the Medical and Surgical Staff of this admirable institution shows that the total number of patients under treatment during the year ending December 31, 1885, was 1,486; of these, 967 were medical cases, and 519 surgical. The percentage of deaths is seven in all; eight and two-fifths per cent. of the medical cases, and four and three-fifths per cent. of the surgical cases; a showing indicative that the management of the hospital has been eminently conservative of life. The year 1885 has been particularly signalized by the dedication of a special department to the treatment of diseases of females, and Dr. N. Bozeman, of New York, has recently accepted the position of Gynæcologist to the hospital. During the year there were nine capital amputations, most of them for compound comminuted fractures, of which five were amputations of the thigh, and all recovered. With one exception, in which the Lister treatment was adopted, all the cases received Dr. Varick's hot-water treatment. Dr. Varick, besides being one of the attending surgeons, is the Medical Director of the hospital, and Dr. Joseph F. Finn, of the attending physicians, is the President of the Medical Board.

DOCTORS IN THE VIRGINIA LEGISLATURE.—The Medical Society of Virginia, and the profession at large, is exceedingly well represented in the present General Assembly of Virginia. Drs. Harvey Black, of Montgomery County, E. T. Rowe, of Orange County, Crispen Dickenson, of Pittsylvania County, and Jacob W. Arnold, of Rockbridge County, are each active practitioners of medicine when at home, whose reputations for learning and ability in the profession are extensive and well-grounded. It may be safely asserted that the medical interests of the State will be advocated by these able gentlemen, whose sentiments make them despise the trickery of artful partizan schemers.—*Va. Med. Monthly.*

VIRGINIA MEDICAL APPOINTMENTS.—Gov. Lee has appointed Dr. Geo. W. Harris, of Richmond, State Vaccine Agent, and Dr. J. C. Watson, Surgeon to the State Penitentiary.

THE SOUTHERN CALIFORNIA PRACTITIONER is the name of an attractive new medical journal which has been started at Los Angeles, Cal. It is a monthly of 36 pages, and its editors are Drs. J. P. Widney, Joseph Kurtz, and Walter Lindley.

LA RIFORMA MEDICA is an "international daily journal of medicine, surgery, pharmacy, veterinary medicine, and allied sciences," which is published at Naples, Italy, under the editorial management of Prof. Gaetano Rummo, and is the only daily medical journal in the world. It is of newspaper form, each issue consisting of eight pages, and is now in its second year of publication.

SUCCESSFUL CHOLECYSTOTOMY.—In the *Lancet* of February 13, Mr. Lawson Tait reports five additional successful cases of cholecystotomy, completing a series of twenty-one cases, with recovery.

MEDICAL DEPARTMENT, HARVARD UNIVERSITY.—Dr. Wm. L. Richardson has been appointed to the vacant chair of Obstetrics in this school.

DR. JULES GUÉRIN.—The death is announced, at the age of eighty-five, of Dr. Jules Guérin, a distinguished French physician, and founder of the *Gazette Médicale de Paris.*

SIR HENRY THOMPSON'S NEW NOVEL, entitled "All But: a Chronicle of Luxenford Life," will contain twenty-one miniature illustrations by the author.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The eightieth annual meeting of the State Medical Society was held at Albany, February 2, 3, and 4, when the attendance was unusually large and an unusually large number of important papers were read. Among the latter were the following: Companion of the Modern Methods of Treating Ununited Fractures, by Dr. Geo. R. Fowler; Papayotine in the Treatment of Diphtheria, by Dr. A. Jacobi; General Artero-Capillary Fibrosis, by Dr. A. L. Loomis; Methods of Diagnosis, by Lawson Tait, F.R.C.S.; Diseases of the Fallopian Tubes, by Dr. W. G. Wylie; The Radical Treatment of Hydrocele and Varicocele, by Dr. E. L. Keyes; Non-Venereal Syphilis, by Dr. L. D. Bulkley; The Limitation of the Contagious Period of Syphilis in Relation to Marriage, etc., by Dr. F. N. Otis; and the Hygiene of the Ear, by Dr. C. R. Agnew. The anniversary address by the President, Dr. A. Vander Veer, of Albany, was on the Water-Supply of Cities and Villages. The following officers were elected for the ensuing year: President, W. S. Ely, of Rochester; Vice-President, S. Van Etten, of Port Jervis; Secretary, W. M. Smith, of Syracuse; Treasurer, C. H. Porter, of Albany.

QUEEN'S NEW CATALOGUE.—Messrs. James W. Queen & Co., of Philadelphia, have just issued a handsome and complete catalogue of ophthalmological instruments, spectacles, and eye-glasses. It is the sixty-sixth edition, and comprises, with the index, 150 pages, fully illustrated, and with all prices marked. The first part of the book contains a great deal of practical information in regard to the eyesight and lenses and glasses which every one, whether a physician or not, ought to possess, and the rest of it is taken up with a descriptive list of apparatus and optical goods. This house, which is superbly equipped with every possible kind of ophthalmological, mathematical, and philosophical instrument, has now been established for almost half a century, and the thoroughly trained and experienced managers of its optical department have a practical knowledge of fitting glasses upon oculists' prescriptions which is unsurpassed.

MEDICAL SOCIETY OF SOUTH CAROLINA.—The following officers have been elected: President, Dr. H. W. DeSaussure, Jr.; Vice-President, Dr. Manning Simons; Secretary, Dr. P. Gourdin DeSaussure; Treasurer, Dr. C. B. Lanneau; Librarian, Dr. W. C. Ravenel.

DR. JOSEPH HOLT, President of the Louisiana State Board of Health, has been appointed a member of the Council of the Section on Public Health and Hygiene of the next International Congress, Dr. Joseph Jones, of New Orleans, being President of the Council.

ANOTHER PATIENT SAVED BY BUCKWHEAT CAKES.—Last month at Jamestown, N. Y., a boy, six years old, swallowed an open toy-knife, handle first, which he was using as a dart for a blow-gun formed of a hollow metal penholder. His grandfather, who had just read an account of the case in California of the successful passage of an open pen-knife along the intestinal canal which was published in the JOURNAL last month, at once prescribed a diet of buckwheat without calling in any physician, and in 58½ hours the knife, which was quite small, was safely discharged by the anus.

SUDDEN DEATH OF A YOUNG PHYSICIAN.—Dr. Meade C. Kemper, 29 years of age, a practicing physician of Norfolk, Va., was found dead in his bed, February 23, death having been caused by disease of the heart. He was the eldest son of ex-Governor James L. Kemper, of Virginia, and had many friends.

DEATH OF DR. CHARLES JOUETT MITCHELL.—This occurred on the 31st day of January, 1886, in Madison Parish, La., of pneumonia. Dr. Mitchell was in the seventy-third year of his age, having been born in Frankfort, Ky., in 1813. He graduated at Transylvania University at Lexington, Ky., in 1835, going from there to the New York University of Medicine, and then to the University of Paris, France, where he graduated in 1840. On his return to the United States he settled in Madison Parish, and just after the war he located in Vicksburg, which he made his home until his death. As a classical scholar Dr. Mitchell had few equals, and his knowledge of his profession was most thorough. Many will remember his noble work during the last yellow-fever epidemic, when, in spite of his advanced age and delicate health, he refused to leave his post, and was himself seized by the disease, the effects of which he never entirely recovered from.

DR. D. B. HAMILTON, of Shreveport, fell from the platform of a south-bound train of the Louisville & Nashville Railroad, January 4, and, his head striking the track, he sustained a fracture of the skull from which he died when the train reached the neighboring city of Montgomery. Dr. Hamilton's death occurred under peculiarly distressing circumstances. He was returning home with the body of his young grandson, Alf. Morrison, who had been accidentally shot and killed at Calleoko, Tenn., on January 2. The bodies of grandfather and son were sent on to Shreveport, where they were buried, January 6. Dr. Hamilton had been for many years a well-known and beloved practitioner of Minden, La., but had of late retired from practice and removed to Shreveport. —*N. O. Medical and Surgical Journal.*

DR. DON CARLOS CASE died at his home in Ocean Springs, Miss., January 7, 1886, aged 67 years. Dr. Case was a native of Liverpool, received his professional education at the Medical College of St. Louis, under the Presidency of Dr. McDowell, and settled at Ocean Springs in 1878. He was a successful practitioner, and greatly beloved by the members of his community.—*Ibid.*

DEATH OF DR. ASHBEL SMITH.—Dr. Ashbel Smith, a prominent physician, soldier, and statesman, died at his home, "Evergreen Place," near Houston, January 21, 1886. He was buried in the State Cemetery at Austin. Dr. Smith was born at Hartford, Conn., in 1806; graduated at Yale College, 1824; began the study of law, and afterwards graduated in medicine, in 1837; was appointed by Captain Sam Houston Surgeon-General of the Texas army; was Joint Commissioner with R. A. Ivinn in making first treaty with the Comanches; was Minister of the republic of Texas to the courts of St. James's and St. Cloud during the administrations of Presidents Houston and Jones; was recalled and appointed Secretary of State by the latter, and afterwards served several sessions in the State Legislature; in 1846 was in the Mexican campaign; on the secession of Texas went into service and served till the end of the war; represented Harris County in the Legislature. In his profession his services were rendered gratuitously, and in every yellow-fever epidemic he repaired to Houston or Galveston and placed himself at the disposal of the poor and of his friends. He wrote an "Account of the Yellow Fever in Texas," 1839 (Galveston, 1840); "Account of the Geography of Texas" (in French); and "The Permanent Identity of the Human Race."—*Texas Courier-Record of Medicine.*

DEATH OF DR. GASPAR GRISWOLD.—Gaspar Griswold, M.D., M. R. C. P., Demonstrator of Anatomy in Bellevue Hospital Medical College, and one of the most accomplished and successful of the younger physicians of New York, died March 4, of acute peritonitis.

NEW YORK STATE BOARD OF HEALTH.—Dr. Lewis Balch, of Albany, has been appointed Secretary of the Board in the place of Dr. Alfred L. Carroll, whose retirement has been greatly regretted by the entire profession of the State.

EDITORIALS.

THE YELLOW-FEVER COMMISSION.—It is a matter of congratulation that the House Committee has reported a bill constituting a yellow-fever commission, notwithstanding the unexpected and ill-advised opposition to such a measure which developed itself in Washington. It is true that the proposed bill is not precisely the same as that drawn up by Dr. Holt, as the commission provided for in it is to be made up of one civilian and two from those already in the Government service, while the appropriation for the work is considerably less than that contemplated in Dr. Holt's; but, at the same time, it is probably as satisfactory a one as any whose passage could be secured.

This opposition, as far as can be made out, seems to have come largely from the members of the National Board of Health, who apparently desired that the commission, instead of being an independent one, should be under the control of their own board. But, although Dr. Freire has now been carrying on his experiments for some years, it never occurred to these gentlemen to suggest such an investigation until after Dr. Holt had come forward with his well-devised and comprehensive plan of a thoroughly equipped scientific commission; and it is difficult to see how the statements which have been made to throw discredit upon the alleged discoveries of Freire and Carmona do not have the same force against the appointing of a National Health Board commission as of one independent of that organization.

The course of the *New Orleans Medical and Surgical Journal* in this matter is particularly to be regretted. It is, of course, entitled to its own opinion of the value or worthlessness of Freire and Carmona's contributions; but when it makes a statement such as the following, "We cannot stand by and see $30,000 of the people's money expended on such an object without entering our earnest and emphatic protest," its aim is evidently to defeat the commission at all hazards. In the furtherance of this design marked copies of the

January and February numbers of the *Journal*, containing elaborate articles written to prove the fallaciousness of the yellow-fever inoculations, were sent to all the members of the House Committee at Washington; and, the articles being thus placed in the hands of lawyers and other non-medical men, the attempt was so far successful as to create a determined opposition to the favorable consideration of a commission on the part of certain members of the committee. The appointment by the Government of a scientific commission such as that contemplated is such a rare event in this country that, instead of being opposed, it ought to receive the cordial and active support of the entire medical profession; for, even if it should be proved on investigation that the alleged protective power of inoculation against yellow fever is without satisfactory foundation, it can scarcely be doubted that our knowledge of the disease would be increased to some extent, at least, by the investigations of such a commission. As to the expense of the matter, it is hardly probable that the people of the United States would begrudge the expenditure of a comparatively trifling sum like twenty-five or thirty thousand dollars in a scientific attempt to protect them from the ravages of a disease which, unless something can be accomplished in combating it more successfully than has heretofore been the case, is likely to cost the nation in the future many thousands of lives, as well as many millions of dollars. There are certainly many other directions in which economy might be practiced more usefully than in the refusal to make the small appropriation required for the sending out of a yellow-fever commission.

But, notwithstanding the fact that the New York *Medical Record*, adopting off-hand the conclusions of the *New Orleans Medical and Surgical Journal*, has pronounced the yellow-fever inoculation a humbug, the mass of the medical profession, to say nothing of a large number of men of the highest scientific attainments in it, are not yet convinced that Freire and Carmona are liars and charlatans. It will be time enough to class them as such when a thorough scientific investigation of their claims and methods has been made in the localities where their experiments and alleged discoveries were made. In the very next issue of the *Record* to that in which Freire and Carmona are denounced as quacks there appeared an article in regard to Carmona's claim to priority in the matter, in which it is stated that "the latter has very recently published an exhaustive monograph on yellow fever, dealing especially with the etiology and prophylaxis of the disease, which is a most valuable addition to the literature of this subject." While less is known in the United States of this gentleman than of Dr. Freire, the latter has unquestionably for some time held an eminent position in the profession, and has received the most liberal encouragement and substantial aid in his scientific labors from the Government of Brazil, being at the present time at the head of the National Biological Laboratory at Rio de Janeiro. In a letter to Dr. Gaston, of Atlanta, dated August 5, 1885, which has already been published in the JOURNAL, Dr. Freire makes the following positive statement: "I avail myself of this occasion to inform you that I have this year performed nearly five thousand inoculations, the result of which proved an absolute success, for none of those who were inoculated died, whereas over four hundred persons who were not inoculated have already succumbed to the disease. The inoculated persons dwelt in the same infected quarter and a great number inhabited the very houses wherein death took place." Again, in the latter part of last month (February) Dr. Irving A. Watson, Secretary of the New Hampshire State Board of Health, received a letter from him in which he states that he has now performed six thousand inoculations, and not a single inoculated subject has contracted yellow fever, although many were in the midst of the infected districts and some acted as nurses. In the districts where 3,051 persons were inoculated, 166 of those treated lived in houses in each of which from one to five fatal cases occurred, the total number of deaths from the disease among the uninoculated of these districts being 278.

Now, when a man in the position of Dr. Freire makes such explicit statements as these, there must be same foundation of fact in them, or else he proclaims himself to be either a most egregious impostor and liar or the victim of hallucination. That the matter is one worth investigating is shown by the fact that Dr. Holt's mission in Washington to secure the bill required commanded at once the personal support of the eminent medical men at the heads of departments, such as Drs. Billings, Hamilton, Gibson, and Smart, as well as of other distinguished physicians, such as Dr. Toner, of the District of Columbia, and Dr. Walcott of Massachusetts, the President of the American Public Health Association. Dr. Holt also met with the most cordial co-operation on the part of the Hon. R. T. Davis, M. D., of Massachusetts, of the House Committee.

It is eminently proper, therefore, that a yellow-fever commission should be appointed, and it is difficult to imagine how anything but good could possibly result from the faithful scientific work of such a commission. It is gratifying to learn from Dr. Holt that the project has met with the earnest approval of the President, who expressed his appreciation of the desirability of an attempt to mitigate the ravages of yellow fever and the necessity of having on the commission men of the highest standing and special fitness for the work in hand, as well as of the members of the Cabinet, especially Messrs. Bayard, Manning, and Lamar, and many gentlemen in both Houses of Congress.

At its February meeting, the New Orleans Chamber of Commerce unanimously adopted the following resolution: The Chamber of Commerce of New Orleans, anxious always to promote the general welfare as well of the country as of the city, recognizes the mission of Dr. Joseph Holt, President of the State Board of Health at Washington, as being in line with the greatest need of our city—prevention of yellow fever. No amount of incredulousness or want of faith in the preventive ways suggested for the elimination of such a scourge of humanity would justify opposition to putting to a crucial test a theory respectably advocated and put forth as a fact, and this Chamber most earnestly desires that the Congress now in session will provide adequate means of investigation.

The *New Orleans Medical and Surgical Journal* believes that, while there are no especial reasons for sending a commission at this time to South America, if any is to be appointed it should consist of but a single representative; but it can scarcely be doubted that, while it would be vastly better to have one good man engaged in such an investigation than to have no investigation at all, the work could be in every way more satisfactorily accomplished, and whatever results should be arrived at would have more weight, if there were three good men acting in concert, instead of one.

FACTS AND FANCY.—In an article entitled, "The Hard Facts in the Case," in the *Contemporary Review*, Dr. Walter Moxon discusses certain alleged faith cures related by the Rev. J. H. Dowie, who makes the statement, in connection with them, that "organic diseases, such as cancer, have been healed as instantaneously and perfectly as diseases of a nervous character." Having mentioned that he gives cases which, as reported, are unsparingly amazing, Dr. Moxon goes on to say:

> I will extract one as a specimen: "Mrs. Parker lives at 74 Moor Street, Fitzroy. . . . For two years and nine months she had been under the care of some of the ablest surgeons in Melbourne, of whom she specially named Dr. George Teague and Dr. Ray, senior and junior. The cancer in the eye had totally destroyed sight, and for many months the left eye was totally blind. . . . After prayer, I laid hands upon the left eye, in the right corner of which there was a large swelling with a small opening, through which an offensive cancerous discharge was always oozing, the principal tumor being in the cavity behind the eye extending toward the brain. Then happened in a few minutes a miracle of healing; the cancer burst and poured out at the small opening in a stream of cancerous matter, quickly filling two large pocket handkerchiefs; the restoration of sight was immediate, perfect, and remains until to-day." Now, it may be that to any one who knows nothing about these affairs, all that is very wonderful, but a tyro in medicine would, in considering the case, at once divide it into what he would respectively call the "history" and the "present condition" of the case. It is clear that Mrs. Parker told Mr. Dowie the history part of the miracle. And every tyro knows what marvels go to make up the "history" of illness in uneducated people; and not only in these. It is quite a usual thing to hear that a doctor, whose name is given, turned out the eyeball on to the cheek and scraped it, and put it back, the patient with two very good eyes looking at you to assure herself that you appreciate the horror of it all. What really happened was, that the doctor turned up an eyelid to find a grain of dust. A part of early medical experience consists in learning to interpret the overstrained language of these extraordinary statements. After a while, one grows skilled in detecting the sand-grain of truth that underlies sentences in which an excited woman will stimulate crowded substantives with strong adjectives, until her whole tale is in scarce sober disorder. Fortunately, Mr. Dowie himself is a fairly good describer of the "present condition" of the case, but it is quite certain that the simplest facts about cancer were included in the list of what Mr. Dowie did not know. If, like Mr. Sanford, he had thrown over all he didn't know, his story would read much more simply. Thus, it is clear that a woman came to him with a swelling in the right corner of the left eye, and told him the usual awful history. Now, a swelling in a corner of an eye couldn't be a large affair. So the reverend and sympathetic gentleman, to account for her horrors, imagined it extended into the cavity behind the eye and toward the brain. He evidently supposed that a space exists there in which "cancer" could collect. But the fact is, there is no cavity behind the eye. And when cancer really grows there, the most frightful disfigurement results from displacement of the eye. How could Mr. Dowie possibly know what was "behind the eye and toward the brain?" Mr. Dowie put his finger fervidly on the swelling, which, from the description, anyone can see, was only an abscess already beginning to discharge, and under his finger the matter came away. Now it is certain that no cancer ever flowed or was caught in any pocket-handkerchief; that is just what matter from an abscess does, but cancer never does. Indeed, as reported by Mr. Dowie, the cancer is as miraculous as the cure. How many "faith healings" consist just of one "miracle" putting a natural end to another!

The power of the imagination in medical matters is well illustrated in the instances quoted in the extract from the *Gentleman's Magazine*, which is published in the present number of the JOURNAL, and it is an agency which might be successfully utilized by the members of the regular profession to a much greater extent than is now the case. A very striking example of the credulity of the human mind is to be found in an account which appeared in the *Rochester Democrat* last month. About four weeks before the date of publication, a Mrs. Goodliff had her leg amputated just below the knee. The foot and the portion of the leg removed were buried in the cemetery, the wound was dressed as usual, and the patient was satisfactorily recovering, and was as comfortable as could be expected in every particular, except that she had a constant and at times very severe pain in the amputated foot, as it seemed to her, and in a corn on one of the toes of the same foot. The pain was very annoying, and at times caused her to cry out from the suffering, from which she could obtain no relief. After about three weeks of such suffering, her husband was prevailed upon by his mother and others to go to the cemetery and disinter the offending member, for it all the time appeared to her that the foot was still attached to her, and was the cause of all the trouble. Accordingly, as her husband, William Goodliff, gives the account, he took up the foot, and upon examination found the stocking had been rolled down tightly across her heel and instep, which bound it very closely, and also found that a bandage had been wound very tightly around her toes, upon one of which she had a troublesome corn. He removed the stricture occasioned by the stocking and bandage, and again laid away in a careful, easy position the offending member, since which Mrs. Goodliff has had no further trouble with it. "This occurred about one week ago," the account concludes, "and there has been no return of those annoying pains." Mr. Goodliff says these are facts, "that there is no mistake about it, and that the statements can be substantiated by quite a number of witnesses."

MR. TAIT ON VESICO-VAGINAL FISTULA.—In the paper on "Methods of Diagnosis" which Mr. Lawson Tait, of Birmingham, sent to the recent meeting of the Medical Society of the State of New York, occurs the following remarkable passage: "So it is with such a special instrument as Sims' speculum. I have heard some of my American friends say that it is impossible to do any operation upon the vagina satisfactorily without it. All I can say is, that I have now cured some three hundred cases of vesico-vaginal and recto-vaginal fistulæ, never having failed in any case, nor having ever refused one, and I habitually pass the sutures with my finger-tips, wholly unaided by speculum of any kind."

Most American readers will be no doubt somewhat surprised to learn that he has had so many of these cases, as he does not seem to have reported them in the medical journals, probably thinking them of but little importance in comparison with the laparotomies for various conditions which he has performed so frequently and with such signal success. As Mr. Tait makes the statement, it must be accepted as correct; but the surprise becomes vastly greater when one reads that he has never met with a single failure, and this notwithstanding the fact that he employs no speculum whatever to aid him in these operations. Such a thing may be possible for Mr. Tait, who is acknowledged by all to possess manual dexterity of no ordinary kind; but it would be interesting to learn whether any other English gynæcologist is accustomed to perform operations for vesico-vaginal fistula in the same manner. Certain it is, that it will probably be a long time before our less brilliant American operators will be willing to dispense with the Sims or other similar speculum in such cases. It is all very well to have eyes on the ends of the fingers, but, if one can have the assistance of the ordinary organ of sight in addition, it is an advantage which is not lightly to be cast aside in operations which are sometimes of the most intricate and delicate character. For the present it must be allowed, to use a perhaps not very classical expression, that the British lion "has the bulge" on the Bird of Freedom from a vesico-vaginal point of view.

CYANOSIS IN NEWLY BORN CHILDREN CAUSED BY ANILINE MARKING INK.—In connection with the unusual case of aniline poisoning reported by Dr. Wm. Govan, of Stony Point, Rockland County, N. Y., in the last number of the JOURNAL, the following account published by Mr. W. Rayner, M. R. C. S., Visiting Medical Officer, Marylebone Workhouse, published in the *British Medical Journal* of February 13, will no doubt be of interest to our readers. It will be observed, however, that nothing is said about any effect upon the urinary secretion, as was so markedly the case in Dr. Govan's patient, a result which was explained by Dr. Squibb as probably due to the fact that the aniline oil was contaminated with carbolic acid or other bi-products of the coal-tar series :

Early one morning, in July last, the night nurse of the Marylebone Workhouse, on going round the lying-in ward, noticed that one of the infants looked, as she said, "very blue and queer." The mother, with whom the child (a week old) was sleeping, was fast asleep, and the nurse thought the child must have been overlaid; but as the lividity remained, I was sent for. I found the child apparently just recovering from asphyxia. The lips, gums, and palate were of a wimberry color, and the whole surface of the body was dusky. The blueness did not, however, decrease, although the child was quite roused and lively. The breathing was quite natural, there was no sickness or diarrhœa, the temperature was normal, and the child had taken the breast well before the mother went to sleep. On looking round the ward, four other children were found to be affected in the same way, though not to quite so great an extent as the first; and during the next three days five more infants were similarly affected. They all took the breast well, and, except for color, seemed as bright and healthy as any children under a fortnight old usually are. The cases were not all in the same room, nor on the same story; they lasted about a week, and all recovered. The drainage was fully examined, and found to be in good condition. Then the milk supplied to the mother was inspected, it being thought there might be something to affect the children, though the mothers were quite healthy and unaffected, more especially as it was remarked that the milk served out on the previous day had been much yellower than usual. Consequently, inquiries were made at the dairy and farm, but without finding any likely cause, and no other customers had complained of anything of the kind. Next, inquiry was made at Queen Charlotte's Hospital to find out whether they had experienced any like outbreak, but they had not then, or at any time. Several of my medical neighbors were kind enough to come and see the cases, but could not assign any cause. The epidemic gradually faded out, and there was nothing more of the kind until last December, when again the same kind of epidemic appeared, and this time seven infants were attacked, the mothers, as before, doing perfectly well, and the children only having the breast. The midwife was asked to very carefully think over what could be in common between the two attacks and unusual during the interval. She could think of nothing except that she had just got a fresh supply of napkins, and fancied she had a new supply in July also, but was not quite sure of this latter fact. As the napkins were made out of old sheeting, this did not seem to help us much; but, on examining one of the cyanosed infants, a counterpart of the stamp of the workhouse (a 4½ inch oval) with which the napkins were all stamped was observed on its buttocks and vulva; and although the marking-ink was stated not to be an aniline preparation, it was suspected; and, on being analyzed by Mr. Greenish, of New Street, was found to be a chloride of aniline. It came out, on inquiry, that the napkins had not been washed after being newly stamped, as they had generally been, before use; and it was observed that the cyanosis gradually died away after the napkins had been washed, and then none of the dye came off. A fortnight later, all the affected children had recovered or gone out. A freshly stamped napkin was used for a strong healthy infant, and this became cyanosed in less than twenty-four hours.

THE ADULTERATION OF BEER.—In view of the enormous consumption of beer and other malt liquors in this country, their adulteration has become a very important matter as regards the health of the American people, and the New York State Board of Health has therefore done a wise thing in making an investigation of the subject. The report of the committee, made at the meeting of the Board held in this city March 3, contains the tabulated results of the examination, by Professor Englehardt, of Syracuse, of nearly five hundred samples of beer purchased in various parts of the State. From the results thus developed, and in view of the fact that there is no legal definition of what constitutes normal beer, nor any standard on the subject established by authority, the committee deemed it advisable to make the following recommendations, which, with the rest of the report, were ordered to be presented to the Legislature.

That the law be amended so as to define the normal condition of malt beverages.

That a malt beverage should, as its name indicates, contain only malt, hops, water, and yeast, and their constituents.

That Congress should pass a law making it obligatory upon the Internal Revenue Department at all times to permit publicity to be given to the ingredients reported by the brewers and dealers of malt beverages.

That local boards of health throughout the State should have special control over breweries within their jurisdiction; should visit them and report publicly upon the condition of these establishments.

That nothing but pure water should be allowed in the brewing of malt beverages.

That local health boards of the State should have special supervision over saloons; should have samples purchased of the beverages sold and forward the same for examination, and that arrangements should be made that the expense of such analyses should be defrayed by the Boards of Excise.

That no condition of secrecy should be imposed in the law relating to beer, spirituous or malt liquors, and that it should be admissible in case any sample be found impure to make the matter public.

AN IMPORTANT CHAIR STILL VACANT.—The scientific and literary world is awaiting with much interest the action of the Trustees of the University of Virginia in regard to supplying the Chair made vacant, several months since, by the death of Dr. Davis. They have shown much judgment in not hastening their decision, and it is hoped that their deliberations will end in the selection of a man fitting in every way to succeed Dr. Davis as Professor of Anatomy and Materia Medica. To be worthy of the place and of those who have signally adorned it in the past, the new incumbent should be not alone of local renown. He should be well known to the Profession, and the possessor of general as well as of special culture. He should be able to maintain the old traditions of learning, research, and accuracy, and to bring also to bear upon his work the spirit of progress and active investigation which is so strong a feature of modern scientific work. The record of the University of Virginia is justly dear to every American, and all are equally interested in keeping up the old standard of distinguished merit and scholarship.

DR. WARREN-BEY'S BOOK.—In the notice of "A Doctor's Experiences in Three Continents" in the Review Department of our present issue will be found a number of extracts, which will afford some idea of the character of the work to those who may not as yet have seen it. The reminiscences of its accomplished author embrace a wonderfully wide field, and are throughout of the greatest variety and interest, so that the book can hardly fail to be an attractive one, not only to the medical profession, but to the general public as well. Its pages, therefore, will be found extremely entertaining to all, and in order that it may reach as wide a circle of readers as possible the price has been reduced to two dollars. Any orders sent to the publisher of the JOURNAL will be promptly filled.

PROFESSOR SOUCHON'S LECTURES.—The first of Prof. Souchon's admirable lectures on the structure of the liver, the kidneys, and the lungs, is given in the present number of the JOURNAL, and when the others are published it will be seen that the descriptions of the various structures are all based upon the uniform plan in the "Guide for Describing an Organ," which appeared in the February number. In these lectures is strikingly shown the commendable effort of the Professor to simplify the intricate study of anatomy by systematizing the description of the different organs, after a plan which is invariably the same for all the organs of the body, and it is not difficult to predict that our readers will be willing to concede that the attempt is altogether a successful one.

AN OFFER TO NEW SUBSCRIBERS.—From now until June next, the Publisher offers a year's subscription to GAILLARD'S MEDICAL JOURNAL, and to *Daniels' Texas Journal*, the price of which is $2.00 per annum, for $5.50. The latter is an able and lively monthly, which has had an exceptional success since it was started in July last, and a number of extracts from its well-filled pages have already appeared in this journal.

ERRATA IN DR. BUSH'S ARTICLE ON THE DELAWARE STATE MEDICAL SOCIETY.—In the February number, page 143, for *unda* read *unde;* for *humidus* read *humidis ;* for *qua* read *quæ ;* for *grassoré* read *grassori ;* for *corrigé* read *corrigi.* Page 145, for *assembly* read *Assembly.* Page 154, for *Darrow* read *Darwin.*

and carcinoma. These are distinguished by a secondary formation or metastasis, and the tendency to recur when removed, from tumors of a benign character. This malignancy of growth and action makes them of special importance. Tumors based on the type of cartilage tissue have been known to produce secondary deposits, but ordinarily the above-mentioned tumors are malignant. These metastatic or secondary deposits bear the same relation to the structures in which they have found a resting place as the parent tumor. They assume the changes in growth, development, and invasion of organs identical with the primary growth. There can be no doubt as to the cells of these deposits coming from the original tumor. The channels of infection are the lymph and blood. In the ordinary cases of carcinoma, examination of the advancing mass shows infiltration of the normal tissue by epithelial cells. The lymphatics are found plugged with epithelial elements and the glands contain the same distinct cells. In this formation, at least, it is unnecessary to imagine a virus transmitted to the body from without as the cause of this proliferation.

There can be no doubt of the malignancy of cancers. The metastases, however, are always of epithelial formation, similar to the primary cancer, and the epithelial cells resemble one another in shape and appearance. Their mode of invasion can always be seen in the lymphatics. The important fact lies in the misplaced epithelial cell.

The cell contains in itself all the essential properties of proliferation, growth, and multiplication. It manifests its activity by growth, function, reproduction, and absorption of the proper nutriment. Like the forms of vegetable life, it is influenced in its activity by the nutriment that surrounds it. A modification of this condition will lead to a change in its activity. The epithelial cell, which forms with others the mass of epithelial tissue, receiving nutriment proper to its activity, if placed in a tissue receiving more nutriment than its own must undoubtedly show some changes in its activity. The transplanting of the spur to the comb of a cock is a familiar example. The independence of these epithelial cells, when removed from their proper resting place, may be seen in the cases of successful skin grafting. Place them in the interstices of the loose connective tissue, bathed in the nutrient fluids of the body, and beyond the restraining influences of their own proper tissue; the result must be an increase in activity and development.

It is not so difficult to imagine the cases in which this infiltration might occur. In some cases of breast cancers which I have examined, it seemed that I could make out a distinct connection between the swollen epithelium of the duct and the cells beyond. This fact has been mentioned by others. The epithelium in the connective tissue and the duct seemed identical in form and appearance.

The observations of Thiersch that the changes of old age can account for the modified relation of the epithelial cell to the connective tissue may explain the occurrences of so-called senile cancers. Still the majority of cancers do not occur in very advanced age. They seem to develop on tissue subject to prolonged irritation. The most recent changes occur in epithelial tissue, but the diagnosis of cancer cannot be made until the epithelial cell forms nests in the connective tissue. If this epithelial element does not come from the proliferating interpapillary processes, it may exist previously. To suppose this, is to admit the embryonic theory of Cohnheim. This involves the hypothesis of a previously existing element left over from the embryonic state and possessing the power under favorable conditions of developing into a distinct tumor. The arguments advanced by its originator offer very convincing proof of the etiology of many complex tumors, like the sacral teratomata, the mixed tumors of the parotid, dermoid cysts, etc. These seem to originate at the sites of the most complicated cell growth. Applied to the carcinomatous group of tumors, the theory has no direct proof of their embryonic origin. There can not be as much reason for accepting the belief that the epithelioma of the lips, pylorus, or rectum, originated from an embryonic epithelial cell displaced and started in growth by continued irritation, as in believing that the irritant may cause the invasion of the connective tissue by the proliferated epithelial elements.

In sarcomatous growths, however, more difficulty is experienced in accepting this embryonic theory.

The growth is built on the type of embryonic type, and partakes to a certain extent of its characteristics. We often find such growths originating from congenital warts or moles, thus favoring the views of Cohnheim. The majority of these tumors develop at situations at which no indication of a previous embryonic focus was evident. These cellular tumors at times grow rapidly; their growth seems to replace the normal tissue and their metastatic deposits are usually carried by the blood-vessels. Until proof can be furnished that these embryonic cells exist in the body and develop into a distinct tumor under favorable circumstances, the theory of Cohnheim cannot logically be entertained. The transplanting of embryonic cartilage to the adult animal, and its development into a tumor, was thought to prove the fact of the power of embryonic cells to live and multiply in a mature matrix. It is conclusive, however, that the embryonic cells will grow in the mature organism under favorable conditions. Another difficulty in determining the embryonic foci is the similarity under the microscope of embryonic cells, the round cell of inflammation, and the small cell of sarcoma.

If an inflammatory origin is ascribed to sarcoma, some recognition must be made of the infectious or non-infectious type. Billroth, in the summary to his remarks on the etiology of tumors, says: "Tumors, like inflammatory neoplasiæ, result from irritation of the tissue. The difference in the cause lies—1. In the specific quality of the irritation. Infection of healthy tissue about a tumor, neighboring glands, etc., is considered sufficient proof of this. It is supposed that under some unknown circumstance this specific irritant may be formed locally. I think that partly as a result of hereditary predisposition, partly from a developed predisposition; that is, where there is a diathesis, we may imagine the formation of material in the body, which shall have a specific irritant action in one or other tissue. 2. Any irritation, usually an inflammation, may excite a tumor, if the irritated tissue is specifically disposed for the development of growths."

This perplexing theory of predisposition as the cause of tumors we find in many of the theories. It serves the purpose of hiding the defects and increasing the obscurity in which the cause of these neoplasms lies. If the irritant is of a specific quality, the inflammatory changes it produces must bear the same relation of infectiveness. We notice these changes in the action of metastases. If the process is infectious in the same sense as tubercle, etc., we may be able to discover some similarity in their life history. These malignant growths have often been compared to the infective granuloma in their course and development. The changes which occur in these infective neoplasms, such as necrosis and the like, may find counterparts in the malignant deposits of tumors. Clinically there are other points of resemblance. Here we cannot find further similarity. The infective granuloma, besides possessing the power of invasion of tissues, may be inoculated. The exact nature of the process has been found, as in tubercle, to be a bacillus. Clinical efforts or experimental works have never been able thus far to connect a bacterium with the cause of tumors. They have never been inoculated. They have never infected the surgeon. Still, the infectious origin of sarcoma at least bears at present great attractions. The discovery of a vegetable growth as the cause of actinomycosis has some bearing on this subject. The tumors these actinomyces caused were called, before their parasitic nature was proved, ostro-sarcoma, tuberculous tongue, etc. The recent nodules are made up of small round cells, while epithelioid cells and giant cells are found in those more advanced. These appearances, as in the other forms of infective neoplasms, are due to the inflammatory action of the fungus. Sarcoma, when rapidly growing, presents changes of a similar character in the reactive appearance of the cells. If the tumor is caused by a micro-organism it must be of a nature which requires very favorable conditions for its development.

I have purposely refrained from speaking of carcinoma in this respect. It seems to me that the misplaced epithelial elements can account for all of the reactive changes in the cells of the matrix. If a micro-organism must be considered as the cause of this class of tumors, the question as to why it should affect the epithelial cells alone does not seem capable of explanation. There is no evidence that would lead to the belief that it can change the cells of the organism into carcinomatous cells. If the latter were true. the lymph glands should be transformed into distinct epithelial tissue. The *seminum* or juice containing very fine refractive molecules has been claimed by Gussenbauer as the cause of infection. They will produce the same class of cells that the parent tumor possesses, but will not change fixed or migratory matrix cells into those of carcinoma. These molecules may be the neucleoli of cells, but they will always produce cells the counterpart of the mother cell. Micro-organisms in the same way cannot produce an epithelial or connective tissue cell. One being cannot form another higher in the animal economy than itself. The action of the micro-organism is of an inflammatory character, specific in its nature. In carcinoma the inflammatory changes represent the action of the cellular matrix. The same may be said of sarcoma. The hyperplasia of the matrix is but an indication of the efforts of the tissue to cast out or destroy the foreign body. In conclusion it seems that to no one theory can be assigned the production of these tumor-growths. Some of them can account for their formation, as the embryonic theory explains the existence of teratoma. The infection theory, while drawing the attention of the surgeon to the malignancy of certain growths need not, however, go outside of the organism and its cellular elements to explain their occurrence.

126 *Washington Place.*

ARTICLE III.

PERFORATING GUNSHOT WOUND OF THE INTESTINES AND OMENTUM, WITH RECOVERY. THE PATIENT ALIVE AND WELL OVER TWENTY YEARS AFTER THE RECEIPT OF THE INJURY.*

By CHARLES A. LEALE, M.D., President of the New York County Medical Association.

The following history of penetrating gunshot wound of the abdomen, followed by circumscribed gangrene of portions of the intestines and omentum, and subsequent formation of artificial ani at the points of entrance and exit of the ball, illustrated the advantages of the opium plan of treatment, even in cases where the abdominal viscera have been extensively lacerated.

In this instance at least two portions of the bowels were perforated, one below the cæcum in the ascending colon, and the other in the small intestines, each of which subsequently was the seat of an artificial anus, through which all the discharges from the bowels took place from March 25, the day the wound was received, until April 27, when, to relieve a desire to empty the rectum, an enema of soap and water was given *per anum*, with the desired effect of re-establishing the patency of the entire length of the intestinal canal.

D——, aged 22 years, was struck, on March 25, 1865, by a bullet, two inches in circumference, which passed through the abdomen, perforating in its course the omentum, the small intestines, and ascending colon. It entered anteriorly, near the cæcum, and made its exit a little to the left of the last dorsal vertebra. He was taken to the hospital, where he was kept under the influence of opium till April 1, when he was placed under my care. The wounds of entrance and exit were then indicated by two dry, black, mortifying points, about twice the size of the original wounds. He was in a greatly exhausted condition and was suffering intense pain in the abdomen, which was tympanitic, while his tongue was dry and his pulse quick and feeble.

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*Read in the Discussion on Laparotomy in the Treatment of Penetrating Wounds and Viscera Injuries of the Abdomen, at the New York County Medical Association, February 15, 1886.

He was immediately placed on a comfortable bed, and his abdomen, over which laudanum and glycerine were poured, completely covered and encircled with large warm poultices of flaxseed meal. I ordered one-quarter of a grain of morphia every two hours, and one ounce of brandy every four hours. In a short time discharges mixed with fæces came from both wounds.

Twenty-four hours after the continuous application of the warm poultices the peritonitis appeared to become circumscribed to within about five or six inches of each wound.

The morphia was now changed to pulvis opii, of which two grains were given every two hours, an experienced attendant being constantly present to watch its effect. The brandy was continued, one ounce every four hours, and to quench thirst small pieces of ice were frequently placed in the mouth.

For seven days the treatment was continued, and he was kept constantly under the influence of the opium. Black sloughs now began to separate by suppuration from the living tissue, and these I carefully dissected away, making two openings into the abdomen, the anterior one being about four inches in circumference, and the posterior, five inches. The mouth of the anterior opening was filled with a portion of gangrenous omentum, which, by the aid of forceps and a little dissection, was easily removed. The parts beneath and surrounding now presented evidences of commencing healthful granulation, and the wounds were thoroughly irrigated with a warm dilute solution of chloride of sodium.

On the fifteenth day after the wound was received constant discharges of fæces came from each wound, those from the anterior wound being of a bright orange bilious color.

On the thirty-first day, the opium and stimulant having in the meantime been continued, I removed several sloughs of tissue and omentum. As there was a desire to empty the rectum, an enema of soap-suds was ordered, and it was followed by the first fæcal discharge by the natural exit since the patient had been wounded. The two grains of powdered opium, every two hours, which had been continuously given for the previous twenty-seven days, were now diminished to one grain every three hours. Stimulant continued. Diet, beef extract and light nutritious food free from all lumps. He continued to improve steadily, and the doses of opium were gradually diminished until the seventy-ninth day. The artificial ani were a constant source of depression, on account of the constant oozing fæces running over his back and abdomen, and keeping him in a condition offensive to himself and disgusting to those near by.

I therefore told him that I would operate to close both of his artificial ani, and anaplasty was carefully performed in the following manner: The openings were thoroughly irrigated with sol. sodæ chlor. dil.; the surrounding tissue down to the intestinal canal was denuded so as to represent an incised circular wound; the walls were approximated, and the parts were hermetically sealed externally, by means of several layers of collodion, after thorough drying. Lateral compresses and broad bands of adhesive plaster, with an abdominal roller bandage, retained the edges in apposition. Opium was given, rest enjoined, and all solid food prohibited.

At the end of three days the anterior anaplasty appeared dry, and to be doing well, but at the posterior false anus the dressings were moist, and a discharge demonstrated that the operation at that point was not a success. The dressings were therefore removed, and with them came a cherry-stone which had acted as a seton and prevented the closure of the wound. I held it up in my forceps before him, reproving him for his disobedience, when he stated that a plate of fresh ripe cherries was placed near his bed, and that the temptation had been too great for him, but in his haste not to be seen he had accidentally swallowed one, cherry stone and all. I then told him that if he thought so little of his own welfare, while so many were devoting their time and best efforts to promote his recovery, it was no more than right that he should suffer for his reckless carelessness and remain in his present condition.

In ten days the dressings, which had remained always perfectly dry at the anterior wound, were removed, and that wound was found firmly closed, showing complete success at this point. In about two weeks I again performed an anaplasty at the posterior fæcal fistula, and this time the opening into the gut was completely closed; after which no fæcal matter ever passed except by the natural opening by the anus.

August 10.—Anterior wound firmly closed and completely healed. There is, however, a slight discharge of pus from the posterior wound, probably due to some remaining dead tissue. The patient in excellent condition and leaves for his home to-day.

Over twenty-one years after I performed the anaplasty, in a letter dated July 30, 1885, Mr. D—— informed me that he "enjoyed pretty good health" and was an applicant for the position of officer of the police.

Recapitulation.—Robust man with perforating gunshot wound of the large and small intestines, followed by circumscribed extravasation of fæces, general and subsequently localized peritonitis, with mortification of the surrounding injured tissue, two artificial ani, through which all the fæces passed for thirty-one days, re-establishment of the patency of the entire intestinal canal, closure by anaplasty of the two artificial ani, and the subsequent passing of all fæces by the anus.

Treatment—opium, stimulants, and rest, with a diet containing as little fæcal-producing substance as possible.

The above history of one of the most remarkable recoveries after such extensive injuries of the intestines and abdominal viscera during our last war, with a continuation of the history of the patient for over twenty years afterward, presents evidence of the value it would be to the profession if the Medical and Surgical History could be continued by utilizing the vast and voluminous records contained in the Surgeon-General's office and the Department of Pensions, a sufficient appropriation by Congress being all that is needed to complete a most valuable military history of surgery and medicine.

ARTICLE IV.

MORPHINISM AND ALCOHOLISM TREATED WITH COCAINE.* By A. N. READ, M. D., Norwalk, Ohio.

I was called to attend Mr. ———, aged 65, who was taking one drachm of morphine and two quarts of whiskey every two days. He had taken, during the past two years, many bottles of a "cure" for the morphine habit, paying ten dollars for each bottle. This morphine "cure" was a strong solution of morphine, highly colored, and was obtained from an M. D. in Michigan. My patient had made up his mind to break away from both the morphine and whiskey habit. Notwithstanding the amount of both of the articles he was taking he was able to attend to his business most of the time. His skin was pale, muscles flabby and soft, and the whole body œdematous; no appetite. I began the treatment by putting one-eighth ounce of morphine in six ounces of water, giving of this solution a tablespoonful three times a day, but, with the patient's knowledge, adding a tablespoonful of water to the solution every time one was taken out. He was limited to a tablespoonful of whiskey every hour for three or four days; then every two hours, widening the intervals one hour every three days, until he took only one tablespoonful three times a day. For wakefulness, which was sometimes so bad as to allow him but an hour or two of sleep—occasionally none at all—for twenty-four hours, I gave bromide of potassium and chloral. For a distress in his stomach, which was very severe, I gave five grains of capsicum, to be followed by a drink of milk, which allayed the burning sensation more than water. This usually gave some relief, but at times he was very restless, with a weak and frequent pulse.

For this I gave a hypodermic injection over the stomach of at first ten, and at times as many as eighteen, drops of a four-per-cent. solution of Squibb's hydrochlorate of cocaine. The effect of this was magical, the relief being almost instantaneous. Sometimes he had this injection twice a day; later, only once, and that in the evening. After taking the morphine solution about two weeks he said it was rather thin, and gave it up altogether. His appetite returned within ten days after commencement of treatment. After some six weeks, having eaten a hearty dinner, he felt so badly that he hunted up some opium and took some. He said, only once, but it was undoubtedly more, as he went to sleep while dressing to go to church. He promised again and again to take no more. He is now taking the con. tr. of avena sativa. I told him that it was prepared from oats, and that I had no knowledge of its effects from my own experience, but he might take it and see if it would not make a horse of him, at the same time telling him what is claimed for it as a tonic or stimulant to the nervous system. He is now comparatively well, and says he will take no more morphine or whiskey; but man is weak when the appetite is so strong, and I fear he will fall again. The point of special interest to me in this case was the prompt and entire relief he obtained from the cocaine. It was immediate. Before I could put up my instrument he would say he was well—for the time.

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* Reported to the DeLamater Medical Association January, 1886.

ORIGINAL TRANSLATIONS.

IS ERGOT INDICATED DURING THE PROCESS OF LABOR AND OF ABORTION? By H. STAPFER, chef de clinique, etc. Translated from *L'Union Médicale*, by H. McS. GAMBLE, Moorefield, W. Va.

"Never! It is always contraindicated." This is the unanimous opinion of professional accoucheurs. It was, and it is still, one of the favorite subjects of discussion of Professor Pajot. He has never ceased to say in the amphitheatre of the Faculty, or in his private course, and he does not cease to repeat to-day: *Never give ergot of rye so long as the uterus is not empty, so long as it contains fœtus, placenta, or clots.*

Professor Tarnier expresses himself thus: *Ergot of rye has killed many children and women. Avoid it as long as the uterus is not relieved of its contents.*

Again, the adjunct professors seize every opportunity to repeat in the complementary courses: *Ergot is a very dangerous medicine when the uterus has not expelled everything that it contains.* This *consensus omnium* gives the force of law to this proposition. The interdiction of ergot during labor or abortion, that is to say, during the expulsion of the product of conception, fœtus, membranes, coagulated blood, is one of the axioms of obstetrics.

On the other hand it has been said: *Ergot of rye is a heroic remedy when,* THE UTERUS BEING EMPTIED, *a hemorrhage supervenes.* This is not said any longer with the same unanimity; there are some restrictions to be made, because ergot has some inconveniences, even when the uterus appears to be empty. We will explain ourselves upon this point, but the proposition remains true. It is this that has prevented the Academy, justly moved by the disasters caused by ergot, from taking away from midwives the right to prescribe it.

What is the effect of ergot?

It tetanizes the uterus. Whence its evils; whence its benefits.

During labor it arrests the inter-utero placental circulation. It results from this that the child is killed by asphyxia. During the delivery it shuts the uterine orifice; and this door may remain as solidly closed as that of a prison. In this prison the after-birth, placenta, membranes, and clots risk being retained and becoming putrid. The result of this is that women are exposed to septicæmia.

When the uterus is empty the action is the same, but altogether beneficent, *at least at the moment when it is provoked;* we repeat that we will explain this reservation. The tetanization of this organ closes the gaping meshes of the powerful muscular network which interlaces the vessels. It tightens these living ligatures (Pinard). The result is that hemorrhage ceases, and the flow of blood which destroys the life of women is arrested.

Why, in spite of precise rules, in spite of well-known effects, is ergot still administered at improper times? Some physicians commit this error because they do not understand the question, or but half comprehend it, and are frightened at the decisive moment. There are also some well-informed practitioners who generalize from a few wrongly interpreted cases, in which ergot, given inopportunely, has succeeded, and conclude that the classical precepts are exaggerated. Let us give a few examples:

A.—With a woman in labor the child presents by the shoulder. Diagnosis not made. The membranes are ruptured to clear up the diagnosis, and to bring the fœtal region lower down. Nothing is cleared up, and nothing comes down; but the uterus is tetanized, the child dies asphyxiated; moreover, the door is closed, and, any operation being impossible, the woman dies of exhaustion caused by the length of the labor, or of a rupture of the uterus. The case is not rare.

A woman pregnant four or five months has had a miscarriage. The person who has assisted her has observed the expulsion of a fœtus, and does not concern himself about the rest, for he is ignorant of the fact that the premature labor of the fourth or fifth month is accomplished in two acts, the fœtus first, the placenta afterwards. A few days, a few weeks, or a few months later, this person is called in all haste to the side of his patient seized with a dangerous hemorrhage and syncope. He gives ergot. But this hemorrhage was caused by the separation of the placenta. Possible consequence: the uterus, tetanized by the ergot, imprisons the placenta, and septicæmia kills the woman.

B.—A woman has a miscarriage about the third month. A veritable flood of blood has flowed from the vagina; the loss continues. A good dose of ergot is given at once, the effect of which is kept up by smaller doses taken in draughts. Result: Death of the ovum, which, exceptionally, might have continued to live; retention and putrefaction; septicæmia more or less grave.

A woman, pregnant four or five months, aborts; expulsion of the fœtus alone; but it is known that the placenta has remained in the womb. The hemorrhage caused by its separation is declared in good time, with violence. What is to be done? The physician is aware of the anathema pronounced by the School of Paris against ergot; he has also heard of the tampon; he has introduced once into the vagina six or seven balls of charpie without any great result, and with what difficulties he still remembers! Behold him very much perplexed then. He says to himself: "I have no charpie, I have no speculum, *how am I going to put in a tampon without a speculum?* Whilst I shall be preparing and seeking what I need, the blood will continue to flow; then it will be necessary to place the woman across the bed, and to move a woman who has a hemorrhage is a serious thing. On the contrary, I have some ergot in my case; this powder is quickly administered, and it quickly acts; it will arrest the blood, and, who knows, it will, perhaps, expel the after-birth. At the school I have been taught that it was dangerous, but my confrère X. has affirmed to me that they exaggerated; he has even published two conclusive cases!" This last argument carries away all hesitation; the ergot is given. Possible consequences: Retention of the placenta; death by septicæmia.

A woman has just expelled her fœtus. She is not delivered. A hemorrhage supervenes. The practitioner knows that, in these cases, it is necessary to introduce the hand into the uterus to complete the separation of the placenta, to seize it, and to extract it; but the idea of penetrating into the uterus frightens him. Why not extract by pulling upon the cord? He pulls. The hemorrhage increases. He pulls harder; the cord breaks. The idea of introducing the hand frightens him still more, for he has lost the thread of Ariadne, which would have conducted him safely through the labyrinth of the vagina and of the cervix, even into the *back-shop*, to use the expression of an old teacher of the French school. The hemorrhage does not stop. Then the conclusive observations of the confrère X. come into the mind of the practitioner, and suggest to him the idea of administering ergot. Same consequences as in the preceding case.

A woman is confined; fœtus, placenta, membranes, everything, has escaped. One of those hemorrhages, called internal, invisible, for nothing flows away, but rendered manifest by the sudden development and the softness of the uterine globe, and by the syncopal condition, declares itself. One of those cases again in which it is necessary to introduce the hand and extract the clots. It is less frightful and easier to make the woman swallow a dose of ergot. It is given. Result: Retention and putrefaction of the clot, septicæmia of greater or less duration.

C.—Hasty generalization from a few facts carefully observed. This is the case of the confrère X., who has published some conclusive histories. X. has been called unexpectedly to a woman seized with hemorrhage. Syncopal state grave. This woman has, a few weeks before, had a miscarriage at about the fourth month. She had so far recovered that she had resumed her usual occupations. A flow of blood accompanied by pains has come on suddenly. The physician touches; his finger penetrates a mass of clot, the blood flows; it is necessary *to attend to the most urgent* need and to stop the loss. An injection of ergotine is given. A few moments afterwards a small, fleshy mass, reddish in color, is expelled violently, between the legs of the woman. It is a fresh, exsanguinated and shrunken placenta. It has escaped with the rapidity of one of those cherry stones which the gamins take between the thumb and index finger and send against the nose of their friends (comparison of Professor Pajot). Some clots follow it, and the woman immediately experiences the greatest relief. The physician is stupefied. He vaguely thought of a fibrous tumor, or a second miscarriage; he had not seized the possible connection between the abortion which he had not seen and the accident which he had witnessed; *he had given his attention to the most pressing want*, and the most pressing want was not to make a diagnosis but to treat a symptom. He had given ergot as the homœopaths give veratrum or atropia. Uterine hemorrhage and ergot are two ideas which are associated the most naturally in the world. But what astonishes him the most is the rapidity of the expulsion, the immediate relief of the woman.

"According to the school," he says to himself, "I have committed an error, and the result of this error has been an immediate cure. Then the school is mistaken." Chance has taught him not to swear by the word of any teacher; he promises himself to profit by the experience, and, upon the first occasion, to give ergot, this time in good earnest. He commences then, once, twice; and success confirms his opinion. A third occasion presents itself, the ergot is given with a confidence which the preceding events seem to justify, but nothing comes, and the woman dies. An accoucheur, consulted, warns him of his error; but he shakes his head, he sees only the three successful cases. He begins again, and succeeds once more; then he was right. A fifth occasion presents itself; he does not miss it, and the woman dies. He does not understand that, in order to shoot the cherry stone, the boys take care to seize it by its posterior half, otherwise it would slip in the opposite direction. So with the placenta which the ergot has expelled even half way out of the uterus.

It will be seen that absolute or relative ignorance of the question, and hasty generalizing from badly observed cases, are the ordinary cause of the evils due to ergot of rye. Examples might be multiplied, but these suffice. Let us close by the following eminently practical study.

Course to be pursued in those cases in which one is tempted to give ergot during labor or abortion.

A. Labor.—Be it understood we shall not speak of cases in which ergot is given in order to bring down an unknown fœtal region. That is monstrous. In obstetrics it is forbidden to institute a treatment or to interfere by an operation without having made an exact diagnosis. If the touch, palpation, and auscultation have remained silent, one should *wait* until the uterine orifice is dilated or dilatable. Then the manual touch is practiced, the whole hand is introduced, and thus the situation is cleared up. There is no inconvenience in breaking the bag of waters at this time, since immediate intervention is possible, the door being open. There is even every advantage in it in case of presentation of the shoulder, for it is the moment of election for podalic version by internal manipulation.

It is above all in the cases in which the fœtal region does not advance that one is tempted to give ergot during labor. This seems logical. By doubling the force which drives the fœtus through the drawing-plate (filière), the termination will be hastened; such a course is to be condemned because the life of the child is exposed to danger, as well as that of the mother. What is to be done?

If the fœtal region, vertex, face, or breech, does not advance, the cause of the delay being diagnosticated, one must not interfere so long as the orifice is neither dilated nor dilatable; that is to say, *applied or applicable upon the periphery of the excavation.* When the door shall be opened, this or that operation will be performed according to the nature of the case, as soon as the health (safety) of the mother or that of the child shall be exposed. I hear the objection of some readers. "If the fœtal region," say they, "does not advance because there is a disproportion between the pelvis and the fœtus, evidently the ingestion of ergot is a bad practice; but if it is a question of simple insufficiency of the contractions, the head being well engaged by its summit, why not gently spur up the uterus?"

Because we possess an instrument, the forceps, which, well applied, has not the serious inconveniences of this fœticidal powder (Tarnier), which also often kills the mother. The door of these uteri, *slightly* spurred up, has been seen, after the expulsion of the fœtus, to reclose, retaining the placenta, and never to reopen.

It is these two accidents, ALWAYS THE SAME, *the possible asphyxia of the fœtus and retention of the placenta*, which have caused ergot to be abandoned in a case in which logic, a bad counsellor in clinical matters when experience does not correct it, formally indicated it. I mean in case of breech presentation. It has been known for long years that under these circumstances the child risks being suffocated during its passage. To give a small dose of ergot when the breech appears at the vulva is to hasten the expulsion, is to maintain, flexed and doubled up, the different segments of the fœtus by applying to them the contracted uterine wall. What could be more logical in appearance? Unfortunately it is pure theory. Practice has shown that ergot increased the chances of death to the child, instead of diminishing them, and exposed the mother to danger, who without it is by no means exposed. The *tetanic power* of ergot hinders the utero-placental circulation; to the chances of death by premature respiration, by compression of the cord, by separation of the placenta, is added that of asphyxia by default of exchanges between the mother and the fœtus. Besides, the uterine orifice contracts in certain cases upon the neck of the fœtus, and this powerful muscular cravat, hindering its expulsion, leaves it all the time to perish between the hands of the accoucheur, who feels it palpitate under his fingers and makes useless efforts to overcome the *tetanic resistance.*

A few years ago it was taught officially, at the clinique of the Faculty, that ergot in small doses was indicated if the child presented by the pelvic extremity. This advice was carried into practice in the lying-in ward as soon as the breech appeared at the vulva. To-day, there remains of this mode of practice but the statistical reports—eloquent witnesses of its ill effects.

When the child presents by the breech, it is necessary *to wait.* Patience is, next to cleanliness, the prime virtue of the accoucheur. He will interfere only, if the mother or the child are suffering, by tractions performed *at the moment when the uterus contracts*, upon the limbs of the fœtus, with the hands, with a finger, with a noose, and, as a last resort, with the forceps; never with a crochet if the child is living.

With the failure of progression of the fœtal region, two events may inspire, and often have inspired, the practitioner with the unfortunate idea of giving ergot; these are hemorrhage and retention of the placenta. Let us study the course to be pursued in these two cases.

A. Hemorrhage.—It supervenes *during labor, during the delivery, and after delivery.*

(*a.*) *Hemorrhage of labor.*—The separation of the placenta is ordinarily the cause of it. When the loss places the life of the woman in danger, it is important to arrest it. The practitioner has two methods at his disposition:

1st. The rupture of the membranes (Mauriceau and Puzos).—The object o this is to prevent the separation of the cotyledons, which will no longer be pulled at every contraction by the tension of the bag of waters.

2d. The tampon.—To make a good tampon it requires 500 grammes of an antiseptic fatty substance and 500 grammes of charpie, or, better still, two leaves of fine wadding. This latter does not have the doubtful origin of charpie, and it is easily procured. Every country practitioner should have in his vehicle some wadding, boricated vaseline, and an antiseptic mother-liquor of sublimate or biniodide of mercury.

The following is the formula which we employ:

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Biniodide of Mercury - - - -	5 grammes
Iodide of Potassium - - - -	10 "
Distilled Water - - - - -	200 "

M.

With half a tablespoonful of this mixture, poured into a litre of water, the physician manufactures upon the spot an antiseptic water which serves to wash his hands and to perform all the injections and washings necessary.

Vaseline plays the part of an excellent fatty substance, because it does not undergo any change. Boracic acid incorporated with it is a less energetic antiseptic than the salts of mercury, but it has the great advantage of changing less in contact with organic matters, and, above all, of not irritating the parts with which it is in contact.

But a tampon is always irritating; it is important not to incorporate with it a product which would render it more irritating still. Boracic acid is used in the proportion of three grammes to one hundred grammes.

The tampon, once decided upon, twenty-five to thirty balls of wadding, as large as a walnut, are prepared and supplied with a strong thread of about thirty centimetres in length. The other balls will be made during the operation and introduced without the thread on top of the others. It requires fifty to sixty, very nearly.

The operator, that goes without saying, will not have touched the woman without having carefully washed himself in a litre of antiseptic water, which he will manufacture with his mother-liquor. This is how he will apply this tampon:

No speculum is necessary. The rectum and the bladder being emptied, if that is necessary, the latter with a clean and aseptic catheter, the woman should be placed across the bed and an abundant vaginal irrigation of antiseptic water applied.

Two fingers should be introduced into the vagina and placed behind the cervix; with the index finger of the other hand must be thrust the first plug of wadding, supplied with a thread, to the deepest part of the vagina. A second, then a third must follow. They must be arranged as well as possible in the cul-de-sacs. In proportion as the operation proceeds, the threads must be twisted together and carried toward one of the groins, in order that they may not become entangled. The plugs without thread must then be pressd in thoroughly. One must fill the vagina, which ought to be stuffed until the perineum stands out as if the head of the fœtus was at the vulvar orifice. *All the plugs must, before being introduced, be kneaded and rubbed in the boricated vaseline to the point of forming a soft paste. The tampon is a connected wall of which the plugs are the stones and the vaseline the cement. If the stones or the cement are defective, the blood will filter through.* A T bandage is indispensable. It must be firmly applied and lined with wadding. The vertical portion maintains the tampon, which, without this, would be expelled. The horizontal portion must be energetically tightened if the membranes have been previously broken without success, for it will oppose the accumulation of blood in the uterine cavity.

The tampon ought to remain in place until the woman has had time to reform, with the help of rum, champagne, and raw eggs, a quantity of blood sufficient to enable her to bear a new loss without immediate danger. It is well that this time should not exceed eight or ten hours. The tampon removed, a second one must be applied; then a third if there is a necessity for it.

(*b.*) *Hemorrhage during delivery.*—Seize the cord with one hand, stretch it out, follow with your other hand this thread of Ariadne which will surely lead you to the internal orifice of the uterus, contracted into the cul de poule. At this moment let go the cord, grasp with the hand, through the abdominal wall, the fundus of the uterus, at the same time pressing it down toward the cavity of the pelvis. Penetrate the organ, seize the placenta with the hand, and withdraw it.

(*c.*) *Hemorrhage after delivery.*—The uterus is soft; hence, the blood does not come from a broken vaginal or cervical vessel. Clots accumulate in the vagina and in the uterus, and paralyze it more and more. Introduce the hand and extract the clots; at the same time give ergot; *but if you have the necessary apparatus at your disposition, prefer intrauterine injections of water at* 45° *or* 80° (*C.*) *They cause the uterus to contract energetically without tetanizing it.*

2d. *Retention of the placenta.*—If this organ is partly engaged in the neck, wait and give every hour an antiseptic injection of water at 45°. Take care not to pull upon the engaged portion.

If the placenta has remained entirely in the uterus, introduce the hand before the door is closed and extract it. The door closes late if the uterus, half paralyzed by a prolonged labor, is inert. Let it rest, and watch the door. It closes slowly if the uterus is irritated by an adherent placenta, and contracts violently, in order to drive out this foreign body. A rare event, fortunately, but the worst of all. It is necessary to break up these adhesions with the extremity of the fingers; we substitute a contused wound for the clean wound of the physiological exfoliation. A dangerous operation, consequently, but not necessarily fatal, whilst the retention of the placenta is most frequently equivalent to a condemnation to death.

B. Abortion.—(*a*) *Embryonic.*—This is premature labor of the second or third month. It is frequently, suddenly, or progressively very bloody. Absolute rest, head low. Do not give ergot either in massive dose or in divided doses. Armed expectation. The ovum is not necessarily condemned to expulsion. It may continue to live. Let the woman take a tablespoonful of champagne frappé, or of brandy and water, every quarter of an hour. Vaginal injections of water, if the abortion is inevitable, at 45° or 48° (maximum) every hour. Less active than the intrauterine injections, they nevertheless have some effect. In case of necessity, tampon with a less voluminous tampon than that which has been described, but of the same kind, without perchloride of iron.

(*b.*) *Fœtal.*—This is premature labor of the fourth or fifth month. It takes place quite frequently in two periods. The fœtus is first expelled. The placenta remains in the uterine cavity for some hours, weeks, or months. In the latter case it is adherent and *lives, like the mistletoe upon the oak, as a parasite.* Do not disturb it. When it exfoliates, a hemorrhage declares itself. Same treatment as in embryonic abortion, and wait. In retention of the placenta at term, extraction is the rule. In retention of the placenta at five months, non-extraction is the rule, because, in the latter case, the uterine orifice softens and opens again by a new labor (thus is explained the expression, "miscarriage in two periods [en deux temps])." Why does it not do likewise after labor at term? This is unexplained. If the orifice is slow about re-opening, and if the placenta becomes putrid, give intrauterine injections.

We desire that this article may be profitably used by those who give ergot unseasonably, but . . . . Professor Pajot was called once by a physician to see a woman in confinement whose placenta was retained. Ergot had been administered. The woman died. Six months later the same Professor was called again, by the same physician, for the same reason. Same result.

We hear numerous objections. One has given ergot in such or such case, and has succeeded. He has hastened some labors, stopped some hemorrhages without causing retention of the placenta; he has facilitated its expulsion in many instances. That has been seen; in fact, that is possible, but *what matters it if other women have died from it?* Children of seven pounds weight have been known to pass in two hours through pelves of seven centimetres. Ought we to advise women, on that account, who have such pelves, to await with confidence the full term of their pregnancy? No. In good practice, one ought not to proceed haphazard, and "one swallow does not make the spring."

To sum up, *never give ergot during labor or abortion.*

In case of hemorrhage, it may be given IF THE UTERUS IS EMPTY, but if one has the apparatus and the experience necessary, it is preferable to give injections of warm, antiseptic water at 45° or 48° (maximum). We have promised an explanation upon this subject. Here it is.

One is never certain that the uterus is entirely empty, and it is no uncommon thing to see, after the so-called opportune ingestion of ergot, septicæmia, more or less grave, more or less persistent. For our part, we have already gathered the histories of several such cases.

[The majority of English and American obstetrical authorities favor, or, at least, concede the admissibility of the cautious use of ergot in the second stage of labor, under certain special conditions, though the tendency of modern opinion seems to be towards the views advocated in the foregoing paper. Playfair says that, if it is to be given at all, it is obvious that it must be with strict limitations and after careful consideration. "The cardinal point to remember is that it is absolutely contra-indicated unless the absence of all obstacles to rapid delivery has been ascertained. Hence, it is only allowable when the first stage is over, and the os fully dilated; when the experienee of former labors has proved the pelvis to be of ample size; and when the perineum is soft and dilatable. Perhaps, as has been suggested, the administration of small doses of from five to ten minims of the liquid extract every ten minutes, until more energetic action sets in, might obviate some of these risks." In another place he says: "This" (ergot) "has long been the favorite remedy for deficient uterine action, and it is a powerful stimulant of the uterine fibres. It has, however, very serious disadvantages, and it is very questionable whether the risks to both mother and child do not more than counterbalance any advantages attending its use."

Penrose says: "Properly used, ergot is a most valuable remedy. Improperly used, it is excessively dangerous. In the hands of the scientific it is a *pulvis ad partum*; in the hands of the ignorant, a *pulvis ad mortem*. . . . . It is only to be resorted to when presentation and position are natural, and there is no obstruction to delivery. In short it is to be used not for the removal of obstruction but for lack of uterine power."

Lusk says: "Ergot should never be exhibited during the first stage of labor, because the tetanic uterine contractions which it substitutes for the normal rythmical ones tend to prevent the further dilatation of the os uteri, and to deprive the fœtus of its blood-supply through the constriction of the uterine vessels. Should the membranes have ruptured before the termination of the first stage, the administration of ergot would endanger the life of the fœtus by causing undue pressure to be exerted upon the umbilical cord. We should also abstain from the use of ergot during the second stage, unless it seem necessary as a prophylactic against *post-partum* hemorrhage. Even under these circumstances it should never be administered if there be the slightest mechanical obstacle to delivery, or if the fœtal head be high up in the pelvic canal. . . . . . Ergot is not specially adapted to the arrest of hemorrhage accompanying abortion. In these cases and in hemorrhage caused by retained shreds of the fœtal envelopes, the appropriate treatment consists in the tampon and in subsequent complete evacuation of the uterine cavity. The only imperative exhibition of ergot is presented by the occurrence of *post-partum* hemorrhage resulting from uterine atony. . . . . Even under these circumstances it should, however, be withheld until after the expulsion of the placenta, lest the uniform uterine contractions lead to its prolonged retention or interfere with manual efforts for its extraction." In speaking of the general care of the patient after delivery, he says: "Most physicians seek additional security against hemorrhage by administering ergot, which, as is well known, favors tonic retraction of the uterus. To this there is no objection, provided the ergot be given subsequent to the expulsion of the placenta. When given, as is commonly done, at the time of the passage of the child's head, it is liable to produce its effect prematurely, and thus to give rise to hour-glass contraction. The rarity of the accident is no argument in favor of the popularity of the practice in the face of the serious complications to which it is capable of giving rise."—Ed.]

LECTURES.

STRUCTURE OF THE KIDNEY.

A lecture delivered before the Medical Students of the Tulane University, of Louisiana, by Edmond Souchon, M.D., Professor of Anatomy and of Clinical Surgery in the University.

(Prepared by the author expressly for GAILLARD'S MEDICAL JOURNAL.)

1st. The kidneys are surrounded by, and embedded in, a mass of celluloadipose tissue, which has been called the *cellulo-adipose capsule.*

2d. Each kidney possesses a *fibrous coat;* at the hilus it is reflected into the interior of the organ around the vessels, after the manner of the capsule of Glisson in the liver, but cannot be followed further than the medullary portion, where it becomes continuous with the external or fibrous coat of the vessels.

3d. *The proper substance or parenchyma* varies in color and consistency. *The central or medullary portion* is of a deep-brown color, is firm, resistant, and striated, presents itself under the form of several pyramids, called the *pyramids of Malpighi,* presenting an apex called the *papilla,* projecting into a calix, and a base turned toward the periphery of the organ. The *peripheral or cortical* portion is of a yellow or light-brown hue, is less resistant and less firm than the central portion, is granular, owing to the presence of peculiar bodies called the *corpuscles of Malpighi.* It penetrates between the pyramids of Malpighi under the form of prolongations known as the *columns of Bertini,* which extend as far as the hilus, where they can be seen between the calices and papillæ. Each pyramid of Malpighi, with the adjacent cortical substance surrounding its sides and its base, constitutes a *lobe,* which, in the lower animals, is more or less completely separated from its neighbors.

Both substances are formed of an infinite number of canalicules or tubules called the *urinary canalicules or tubules.* They arise from the papillæ, singly or conjointly; each tube runs towards the periphery of the organ; in this course it divides dichotomously, so that one tubule, single at the apex, gives rise to fifteen and twenty tubules which form, as a whole, a cone, with its apex at the papilla and its base at the periphery; these cones form the *pyramids of Ferrien,* also called the *lobules* of the kidney. The tubules are straight and parallel in the medullary portion, where they are called the *tubes of Bertin,* but become flexuous and wavy towards the base of the pyramids. They become convoluted on entering the cortical substance, and have no definite direction. Some tubules descend into the medullary substance, forming a curve called the *loop of Henle.* The tubules are composed of a basement delicate fibrous membrane, lined with polygonal cells. They terminate into a flask-shaped dilatation or hollow sphere which forms the *capsule of Malpighi*; those capsules are situated on the side of the pyramid of Ferrien, and there are none in the centre; they are disposed in superimposed rows along the side of the arterial branch which runs between the two adjacent lobules or pyramids of Ferrein, *the interlobular artery*, which furnishes to each capsule a small branch, entering the capsule at the point opposite to the tubule. The capsules themselves are formed of a delicate fibrous investment, and are lined with polygonal cells. This *hollow sphere* formed by the dilatation of the tubule contains a *solid sphere*, the *capsule of Malpighi*, composed of an amorphous connective tissue, lined on its surface with polygonal cells, to which belong those cells which sometimes seem to run over the orifice of the tubule; there is a small space between the two spheres in which the urine is deposited from the vessels. *The afferent vessel* of the corpuscle is a capillary artery from the interlobular artery, and divides in the interior of the corpuscle into a tuft of smaller convoluted capillary arteries. *The efferent vessel* of the corpuscle is not a vein, but still an artery; it only becomes truly a vein in the capillary plexus which exists in the interlobular spaces. It is a capillary portal system.

The arteries are the *renal or emulgent*, which divide at the hilus and furnish a branch which enters the centre of each column of Bertin, and follows on till it reaches the limit of the two substances; there it divides into two branches, anastomosing with the similar branches from the neighboring artery, forms a series of arcades around and over the pyramids of Malpighi; from the *convexity* of these arcades are given off the cortical interlobular arteries destined principally to the corpuscles; from the *concavity* are given off the medullary interlobular arteries, which are by far less numerous, and which are destined to the tubules.

The veins follow the arteries; the interlobular veins of the cortical portion near the surface arise by star-like veinules, called the *stars of Verhegn.*

CLINICAL LECTURE ON CANCER OF THE LUNGS. Delivered at the Liverpool Royal Infirmary. By A. T. H. Waters, M.D., F. R. C. P., Physician to the Infirmary.

Gentlemen:—I purpose occupying the time at our disposal to-day in considering, very briefly, thesubject of primary malignant disease of the lungs. There is probably no affection of the chest in which more mistakes of diagnosis are made than in cancer of the lungs; and undoubtedly the affection is often very obscure in its origin and very insidious in its course. In a large number of cases, accurate diagnosis in the early stages is almost impossible; but yet I think that, as a rule, by carefully considering the features of any given case, its mode of development, and the local and general symptoms which characterize it, we shall, even when the disease is not very far advanced, be able to arrive at a well-founded conclusion as to its nature.

Cancer of the lungs usually comes on in a very insidious manner, and in its earlier stages may and does simulate, and indeed frequently is complicated with pleurisy, pleuropneumonia, or bronchitis. One of the first symptoms which call attention to the disease is often a slight pleuritic attack or pain resembling that of pleurisy or pleurodynia. On making an examination of the chest, you may find a slight dulness at the base of one lung, and possibly a friction-sound.

You think you have to deal with a simple case of pleuritic effusion, and you use the measures which you consider appropriate to such affection. But the symptoms do not yield; the dulness over the lung slowly extends, the patient begins to emaciate, he becomes weaker, his pulse rises, but the increase of temperature is slight, only to the extent of two or three degrees.

Again, instead of finding a friction-sound when you examine the chest, you may hear crepitation or cronchitic *rôles*, and you think the case is one of subacute pneumonia or bronchitis. There may even be expectoration of rust-colored sputa; but for the most part, in cancer, the sputa are whitish, tenacious, very difficult to expectorate, and occasionally bloody. There is often a cough of a very severe kind, and paroxysmal in character, which does not yield to ordinary remedies.

As the disease progresses, and you find that the constitutional measures to which you have resorted for the supposed pleuritic effusion or pneumonia do not have the desired effect, you begin to doubt the correctness of your diagnosis; and with the view of satisfying yourself on this point, or possibly thinking that some fluid, serous or purulent, exists in the pleural cavity, which should be removed, you make an exploratory puncture into the chest, either with an ordinary hypodermic syringe, or with a syringe such as I use in such cases; or you at once use the aspirator, and you find that no fluid is withdrawn, or, perhaps only a few drops of blood. You have, in fact, punctured a solid lung, and, in a measure, you have cleared up the diagnosis.

Now, you must not imagine that, in making a puncture of this kind, although you have performed a useless operation, you have done anything which seriously injures the lung or jeopardizes the patient. If only the hypodermic syringe, or a fine trocar and cannula be used, no harm is done. It is unfortunate not to find fluid, if you have expressed a strong opinion to the patient or the patient's friends that you expected to find it; but, if you have been guarded in the opinion you have expressed, and you certainly should be so, your mistake or failure will not seriously compromise you. Such mistakes, indeed, cannot be avoided. The differential diagnosis between a cancerous lung and a lung solid from some other cause, and pleuritic effusion, is at times so difficult that the most accomplished and most experienced physician may make a mistake with reference to it; and in all cases of doubt an exploratory puncture should be made.

There is, in addition to pleuritic effusion and consolidated lung, another condition which may simulate cancer of the lung. I mean diffused thoracic aneurism. It is occasionally difficult in a case—when we have even eliminated the question of pleuritic effusion—to say whether a dulness which we find in the chest is due to an aneurism which has become diffused, or to a cancerous lung. Some years ago I attended a lady who developed symptoms of pleurisy in the left side; and soon after the onset of the symptoms there was distinct pulsation in the upper part of the chest, which I at first thought to be due to an aneurism. As the case progressed, however, the symptoms became less equivocal, and the patient died with all the indications of malignant disease of the lungs.

Again, I was called, some years ago, to a gentleman in Cheshire, who, after having had a fall, developed symptoms of pleurisy-pain in the side, etc. When I saw him, there was dulness over the lower part of one lung behind, and I expressed the opinion that the case was one of malignant disease; but I did not feel quite sure of my diagnosis, for the conditions which I met with might have been due to an aneurism produced by or existing at the time of the fall, and subsequently becoming diffused. The gentleman died not very long after I saw him, but no post-mortem examination was allowed.

Cancer of the lungs often exists for a long time, and may go on to a fatal issue without causing much, or, indeed, any, pain. There may be no marked cancerous aspect, but the gradual emaciation and increasing debility show the serious character of the disease. Dyspnœa, sometimes only slight, but occasionally severe and paroxysmal, is usually complained of; but in many cases this difficulty of breathing does not trouble the patient much, and it may be difficult to persuade him that there is anything seriously wrong with his lungs, so slight are the subjective symptoms as regard these organs.

Let me refer now a little more in detail to the subject of diagnosis. The great difficulty, for the most part, is in distinguishing between malignant disease in the early stages, and pleurisy; and the points of difference are these: In cancer, the dulness, although it may be very decided, simulating that of fluid, does not vary in site with change of position of the patient; it does not, as a rule, even when the whole lung is involved, extend beyond the median line in front, as is the case in extensive pleuritic effusion. Sometimes, however, a cancerous development in the anterior mediastinum does produce a dulness which passes the median line, and even a solid lung may slightly encroach on the opposite side. The heart is not usually displaced to any material extent. There may, however, be but little displacement of it in pleuritic effusion in consequence of it having contracted adhesions. In extensive pleuritic effusion, when the chest is quite full, the dulness is complete in all positions of the patient, but in such cases there is usually cardiac displacement.

But in many cases of malignant disease of the lungs, there is some pleuritic effusion; and the fact that on tapping you draw off fluid may mislead you as to the real nature of the case with which you have to deal. There was a little girl in No. 15 ward some years ago who was admitted with the following symptoms: There was well-marked dulness over nearly the whole of the back of one lung, with some crepitation at the upper part. I thought there was fluid in the pleura, and I tapped the chest, and drew off about fourteen ounces of serum. But the symptoms did not yield; the girl grew gradually worse, and I tapped her a second time, but only a small quantity of bloody fluid was removed. She died, and we found the lung a mass of cancer.

In the progress of a case of cancer of the lungs, symptoms of pressure often show themselves. There may be some dysphagia from pressure on the œsophagus; and one or both arms, and the neck and face, may begin to swell from pressure on one or both of the innominate veins, or the superior vena cava. In one case which was under my care in the Northern Hospital, the œdema was most marked. The patient's arms, face, neck, and thoracic trunk became enormously swollen, while the lower limbs and the lower part of the trunk were free from swelling. The appearance of this man was very peculiar. Another symptom which occasionally shows itself, and which helps in the diagnosis, is an enlargement of the lymphatic glands about the root of the neck from cancerous infiltration.

It sometimes happens that cancerous affection of the lungs is confined to one side of the chest, one lung becoming quite a mass of cancerous disease, whilst the other remains free from it. In the case to which I shall shortly refer, one side only was affected.

In the development of the symptoms and signs of cancer, much depends on the site in which the disease originates. If it begin in connection with the pleura, the symptoms of pleurisy predominate; if, on the other hand, it originates in the interior of the lung, the disease may simulate bronchitis or pneumonia, or some other form of consolidation of the lung. There are cases which, in their physical signs, simulate very closely phthisis; but the temperature-ranges in them are not like those of phthisis. The temperature maintains a much more even level than in phthisis, and rarely rises to any great height. The character of the breath-sounds will not help you much in your diagnosis of an obscure case of cancer. They may be altogether absent, as in extensive pleuritic effusion, or in a lung intensely solidified from some non-malignant disease; or they may be feeble. For the most part there is a certain amount of movement of the affected side; local vibration is usually present, but is not strongly marked.

In regard to treatment, I need not tell you that cases of cancer of the lung are hopelessly incurable. We know of nothing which will beneficially influence the course of the disease. You must treat symptoms as they arise. If the case be complicated with pleurisy, with or without effusion, you may often give relief by such measures as you would adopt in ordinary pleurisy—poultices, etc.,or by tapping. For the most part, your attention must be directed to relieving pain and distress, often very prominent features, and to giving such food as the patient can take. The hypodermic injection of morphia, or the administration of opium in some form, is often of great service; it relieves pain, soothes the patient, and gives him sleep. Cancer of the lung is sometimes rather slow in its progress, and the aid that you can afford will tend to minimise the sufferings which are more or less incidental to the disease.

And now, having made these remarks, let me draw your attention to the following case:

James G., aged 44, was admitted into the infirmary under my care on January 13 last. He complained of tightness in the chest, and slight dyspnœa, but no pain. His illness began, he said, about three months before his admission, and he had been gradually wasting since then. He had, however, followed his work in an iron-foundry up to six weeks before coming to us. On examination, we found the whole of the right side of the chest dull on percussion, with very impaired movement. The dulness was very marked, but it did not extend beyond the median line in front. Vocal fremitus was very slight. The breath-sounds were very faint all over the lung. On the left side, the resonance was good, and the breath-sounds loud, but healthy. The heart was not displaced, and the sounds were normal. The aspect of the patient, although somewhat pale and sallow, was not otherwise unhealthy. The pulse was 85. On the day after admission, the right pleura was tapped, and twenty ounces of a dark-colored fluid were drawn off by the aspirator. The fluid was very fibrinous, and coagulated soon after it was drawn from the chest; indeed, it coagulated in the cannula during the operation. There was a slight improvement in the physical signs after the tapping; the breath-sounds were more audible, but the patient did not improve. On January 17, tapping was again practiced, but only two ounces of fluid were withdrawn. The man now became rapidly weaker, and took his food badly. He complained of restlessness and insomnia, but there was no pain. The physical signs in the lungs remained unchanged. There was some expectoration of frothy, tenacious, and rust-colored sputa, for a few days rather abundant. The symptoms of exhaustion gradually increased. The chest was punctured again on the 25th, but only a very small quantity of blood-stained fluid was withdrawn. About February 1, the abdomen began to swell, but there was little or no pain. During the whole time the patient was under observation, his motions were very pale, but there was no jaundice. He died on February 7.

I expressed an opinion, when I first examined the man, that he was suffering from malignant disease of the lung, and the results of the tappings tended to confirm the opinion. At the same time, the case was just one of those in which the differential diagnosis between pleuritic effusion and cancer is very difficult, and the disease was complicated, as it occasionally is, with pleuritic effusion, thus making the diagnosis less easy. From the results of the post-mortem appearances, I think there can be no doubt that the affection commenced in the pleura, which became infiltrated with malignant deposit, and much thickened and inflamed, that extension to the lung took place subsequently, and that the further spread of the disease to the abdominal cavity occurred during the last few weeks of life.

I need say but little about the treatment. In addition to the tapping, which gave relief, I ordered carbonate of ammonia, and subsequently quinine; and sedatives were used to procure sleep.

The following are the notes of the necropsy, furnished by Dr. Barron. The left lung and pleura were healthy; the right pleura was occupied by a diffuse malignant growth. Two parts of the pleural cavity still existing contained yellowish glairy fluid. The right lung was infiltrated with malignant growth, running along the course of the fibrous septa from the pleura into the lung-substance. The infiltration of the lung was most marked along the diaphragmatic and lower costal aspect. The lung was somewhat softened and breaking down at the base. The right arch of the diaphragm was infiltrated with growth. There was some pericarditis, with malignant deposit on the parietal portion of the pericardium. The small and large omenta were infiltrated with the malignant growth; there was recent diffuse peritonitis, with fluid in the abdomen. The liver was healthy; its peritoneal ligaments were infiltrated by the growth. The cancer was of the carcinomatous kind.—*Brit. Med. Journal.*

SELECTIONS.

TREATMENT OF ACUTE INFANTILE BRONCHITIS. By J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College.

Infantile bronchitis is probably the most frequent disease which the physician is called upon to treat. It is usually mild and readily controlled by proper remedies, but in other instances, especially when neglected or improperly treated, it becomes by extension downward to the minute bronchial tubes, or to them and the alveoli, one of the most fatal maladies of infancy. It is therefore very important that bronchitis in the infant receive timely and proper treatment.

A brief glance at the clinical history of this malady will help to a correct knowledge of its therapeutic requirements. Acute bronchitis is in most instances preceded, and in its first stages accompanied, by coryza, which first arrests the attention of the parents, but within a day or two the inflammation extends to the larger bronchial tubes, and is announced by a cough. The bronchitis is often limited to these tubes throughout the attack, under which circumstances it is so mild that treatment is scarcely required, but between this mild disease and that severe form in which the minute bronchial tubes are involved there is every grade of severity.

Bronchitis in the infant is primary or secondary. Two diseases are always accompanied by it, in a form so severe that the cough which it causes is a prominent symptom in each, to wit, measles and pertussis. It occurs also in a mild form in typhoid fever, and is present in tuberculosis, and in many cases of diphtheria. It requires, in a measure, different remedies, according to the conditions in which it occurs, but the treatment may be most conveniently considered under the two headings of mild and severe bronchitis.

Bronchitis can probably be aborted or rendered milder, in some instances, by an emetic employed when the first symptoms appear. Its effect is more certain if the patient drink warm water at the same time, and take a warm foot-bath or general bath. The syrup of ipecacuanha is perhaps the best medicine for the purpose. It promotes bronchial secretion and diminishes the force of the circulation. But ordinarily the physician is not summoned until the bronchitis is established, and measures designed to abort it are inadequate.

Treatment of mild bronchitis.—The inflammation is limited to the larger tubes, or to these and those of medium size; if to the larger tubes, it gives little inconvenience, and often passes off without treatment. The patient is said to have a cold. In mild bronchitis, the respiration is but slightly accelerated, the temperature not above 102°, the cough not painful, or attended by a slight degree of soreness in the upper sternal region; the thirst is moderate, and the appetite not notably diminished.

In this form of bronchitis, in which there is no increase of symptoms from day to day, demulcent and mild expectorant medicines are sufficient to cure the disease. Even domestic remedies are sufficient. It is of such cases that the late Dr. James Jackson, of Boston, in his advice to a young physician, wrote as follows: "For young children I employ the following: Take of either almond or olive oil, of syrup of squills, of any agreeable syrup, and of mucilage of gum-acacia, equal parts, and mix them. Of this mixture, a teaspoonful may be given to a child two years of age, a little less, if younger, and increase if older, so as to double the dose to one in the sixth year."

Of the mixtures officinal in our pharmacopœia, the mistura glycyrrhizæ composita is perhaps the best for mild bronchitis, and it is largely used. It is beneficial not only in the primary disease, but in the secondary or symptomatic bronchitis of measles and pertussis. The small amount of tartrate of antimony and potassium which it contains, 1–64 grain to the drachm, has a slight sedative effect on the action of the heart without causing nausea, and it promotes expectoration. The paregoric in this mixture being one part to eight, is useful if the infant be restless and deprived of the needed sleep. A patient of one year can take one-third of a teaspoonful, and one of two years half a teaspoonful, every two to four hours. The syrupus ipecacuanhæ compositus of the French pharmacopœia is also one of the most beneficial remedies for mild bronchitis. It is slightly laxative, and it produces no narcotic effect. It consists of the ipecacuanha and senega roots, thyme, the blossoms of the red poppy, which I believe are not narcotic, orange-flower water, white wine, sugar, and a small amount of sulphate of magnesium. An infant of eight months can take half a teaspoonful every second hour, and one of eighteen months or two years one teaspoonful every second or third hour. I have prescribed this syrup during the last two years, and mothers who have observed its effects have commended it. As is seen from its composition, it promotes expectoration without any of the ill effects which sometimes result from the use of those mixtures which contain opiates. If it were introduced into our pharmacopœia it would probably be largely used in this country.

If the temperature rise to 102° or above, with the respiration in a corresponding degree accelerated, the cough painful, and the pulse frequent and strong, indicating extension downward of the inflammation, the following prescription I have found useful.

℞

Spts. ætheris nitrosi,	
Syrupi ipecacuanhæ, - - - -	āā ʒij
Ol. ricini, - - - - - - -	ʒiij
Syr. bal. tolut., - - - - - -	℥j

M.

Sig. Shake bottle and give half a teaspoonful to an infant of one year, one teaspoonful to an infant of two years.

Mild bronchitis, with the use of such remedies as have been mentioned, and with the external treatment of the chest which will be described hereafter, gradually abates in most instances. But the physician should be prepared for the other alternative, namely, an increase in the severity of the symptoms by extension of the inflammation to the smaller tubes, and the change of a mild into a severe bronchitis.

Severe or grave bronchitis.—The inflammation has extended to the minute bronchial tubes; the mucous membrane of these tubes is hyperæmic and swollen, and actively secreting. On account of the small size of the tubes, many of them become occluded by muco-pus, which acts as a ball-valve, allowing the escape of air upward from the alveoli, but preventing its entrance into them. Hence the alveoli connecting with these closed bronchioles become less and less distended with air, undergoing partial collapse, and some of them pass into a state of complete atelectasis. This occurs most frequently in the posterior and depending portions of the lungs.

Another equally serious pulmonary complication often occurs. I refer to catarrhal pneumonia. The inflammation in its progress downward in the most severe forms of the disease passes from the bronchioles to the adjacent alveoli, usually in more places than one. With the occurrence of this complication, the symptoms are aggravated, the suffering increased, and the prognosis is obviously the more unfavorable the greater the extent of this complication. Broncho-pneumonia thus occurring is indeed one of the most dangerous diseases of infancy, and one that requires the utmost vigilance on the part of the physician, and the most skilful use of remedies, to save the life of the patient. The respiration in severe bronchitis is greatly accelerated, numbering 60, 80, or even 100 or more per minute, and each inspiration is usually accompanied by a moan. The pulse is in a corresponding degree accelerated, and is often feeble the countenance is anxious and indicative of suffering, and the patient restless.

In this form of bronchitis the indications for treatment are: 1. To promote expectoration and prevent clogging of the tubes; 2. To diminish the inflammation and prevent its extension; 3. To strengthen the action of the heart and prevent exhaustion.

In employing measures to fulfil the first indication, it should be borne in mind that the cough is useful as the only means of expelling the mucus, and that patients never do well with severe bronchitis that do not cough often. When asked by parents to prescribe something to diminish the cough, I inform them that the safety of the patient depends on the strength and frequency of this symptom, and that it would be dangerous to put a stop to it by the use of opiate or other medicines, and I now very seldom combine an opiate with the cough mixture for severe infantile bronchitis. If the infant be allowed to cough every five or ten minutes, and the cough be rendered as loose as possible by appropriate remedies, it will do better, according to my observations, than when the cough occurs at longer intervals. If it requires sleep, I give medicine separately once or twice daily, as in the following formula for a child of one year.

℞

Liq. opii compositi (Squibb's),	gr. xij
Potassii bromidi,	ʒj
Syr. rubi idæi (raspberry),	℥ss
Aquæ,	℥iss

M.

Sig. Dose, one teaspoonful.

I have seen much harm done by employing stupefying agents which, while they produce sleep, also cause suspension of the cough, upon the strength and frequency of which the safety of the infant depends. The very prevalent opinion among the laity that the cough does no good to the infant unless mucus is injected into the mouth needs to be corrected. In order to obtain their full co-operation, I often find it beneficial to explain to the mother or nurse the process of expectoration in the infant, so that they understand that the tubes are freed from mucus as effectually when it is swallowed, after the cough, as when it is received upon the handkerchief.

Among the agents to fulfil the first indication mentioned above—that of promoting expectoration with the least possible loss of strength—the first place must be given to the ammonium salts; of which the two in common use are the carbonate and muriate. The carbonate is both a stimulant and expectorant, but its irritating property is such that it should not be prescribed in a larger dose than one grain to the drachm; a larger dose frequently repeated may produce gastritis, especially if there be little food in the stomach. It has been known to produce gastritis in animals when administered in considerable quantity, and its irritating action on the fauces can be noticed by anyone who swallows a solution of two or three grains to the drachm. The Curator of the Foundling Asylum has noticed in the cadaver the ill effects of the more irritating ammonium preparations. In one instance in which the aromatic spirits of ammonia had been employed, it was supposed with sufficient dilution, the extent and severity of the gastritis were such that it seemed as if this agent might have hastened the fatal result. The preferable way of employing this valuable agent, to prevent its irritating action upon the stomach, is to prescribe it dissolved in water, and order each dose to be administered in a tablespoonful of milk. The muriate does not possess the irritating property of the carbonate, and it can be safely administered in double or treble the dose of the latter, and at short intervals. It is, therefore, I think, to be preferred to the carbonate in most cases of severe bronchitis, except at an advanced stage, when an active stimulant of the heart is required.

In this connection, I will state my conviction that the ammonium salts, whether the carbonate or muriate, are not given in sufficiently frequent doses in the practice of most physicians, in severe forms of the disease which we are now considering. If there be marked dyspnœa, and urgent need that the mucus be expectorated from the tubes which it is obstructing, I think that the effect is better if the dose be administered every half hour instead of every second or third hour. Half-hourly doses are not inconveniently given if the vehicle be milk.

The muriate of ammonium may, like the carbonate, be administered in milk, but the following is with me a favorite formula:

℞

Ammonii muriat.,	ʒj
Syr. bal. tolut.,	℥ij

M.

Fifteen drops, which contain one grain of the muriate, should be given to an infant of three months, and thirty drops, or two grains, to an infant of six months. Physicians, in my opinion, often defer too long the use of the ammonium salts, using for the first days depressing remedies instead. The infant suffering from dyspnœa, and requiring a strong and frequent cough to expel the mucus, may, according to my observations, take the muriate from the first day of the sickness with benefit, and every half hour or hour when it is awake. No harm can result from the use of this agent in frequent doses, and for several days, such as might result from the carbonate.

The ammonium salts tend to increase the frequency of the cough, perhaps by the slight irritation which they produce upon the fauces in the swallowing. The muriate may be employed so long as an expectorant is required, and usually with as much benefit as can be derived from any drug.

As regards the use of those other common expectorants which have long been employed, particularly senega and squills, those have been better observers than myself who have witnessed any marked benefit from them.

It is so necessary, as a means of relieving the dyspnœa, to assist the infant to expel the mucus with which the tubes are clogged, when the respiration is much embarassed, that an emetic is sometimes proper. One should be selected which causes little exhaustion. The syrup of ipecacuanha may be employed, given with an alcoholic stimulant, as brandy or whiskey. Infants a few months old I have sometimes temporarily relieved by removing with the finger or a swab the mucus that collected upon the fauces. This simple operation produces a forcible cough, and sometimes vomiting, by which a large amount of mucus is expelled.

The necessity of sustaining the strength of the patient, and at the same time of reducing the fever, has led to the employment of quinine by many, perhaps most, physicians in the treatment of severe infantile bronchitis. I cannot say that I have noticed any marked reduction of temperature from its use in bronchitis or broncho-pneumonia, but it has seemed to me that it has been useful as a heart tonic. Much harm may, however, be done by employing quinine in the treatment of infants, by the use of doses too large. In the adult, according to the sphygmographic observations by Dr. M. Putnam Jacobi, while quinia in a dose of five grains increases the strength of the heart's contraction, a dose of twenty grains enfeebles the contractile power of the heart in a marked degree. According to Stillé and Maisch, "Poisonous doses occasion dyspnœa and noisy respiration, which is also jerking, interrupted, retarded, and finally arrested." (*National Dispensatory*). A dose too large, therefore, would be likely to produce just such symptoms as occur in severe broncho-pneumonia. To an infant aged one year, with this disease, I do not give a larger dose than one-half grain to one grain of the sulphate of quinia, every fourth hour, as in the following formula:

℞

Quiniæ sulphat., - - - - - -	gr. xij
Ext. glycyrrhiz., - - - - - -	ʒss
Syr. pruni Virginiani, - - - - -	℥ij

Misce.

Quinine, however, administered to an infant is very likely to cause vomiting from its bitterness, a result which I do not regret in the treatment of capillary bronchitis, because it causes the expectoration of considerable mucus. The second or repeated dose is usually not vomited. It is difficult to appreciate the beneficial effects of quinine in this disease, but that it does increase the contractile power of the heart seems probable.

If the temperature rise above 103°, if the infant have a full and strong pulse and flushed face, and if the lungs are not involved, or but slightly inflamed, antipyrin may, according to my experience, be safely administered, in proper dose, and with beneficial effect as regards the febrile movement. It should not be administered at stated intervals, but according to the temperature, so that perhaps only one or two doses daily may be sufficient. When the lungs are implicated, and the patient has severe broncho-pneumonia, I have seen such pallor from a single dose of antipyrin, in one instance, that I did not dare to repeat it. It seems to me, therefore, that there should be a careful discrimination in regard to the cases in which it should be employed, so that, while vigorous infants, with severe bronchitis, without pneumonia, or with but slight pneumonia, are benefited by its use, feeble infants with weak pulse or with extensive pneumonia, and young infants, incur too great risk to justify the employment of this agent, until its exact therapeutic effects are more clearly ascertained.

When the pulse is becoming more rapid and feeble from the extent and severity of the inflammation, the use of digitalis is indicated as a heart tonic. Not infrequently in severe bronchitis, with the minute tubes clogged with muco-pus, the heart is taxed to the utmost to carry on the circulation. Digitalis may furnish the needed assistance by increasing the contractile power of the ventricles. It is, therefore, an important remedy in a large proportion of cases of this form of bronchitis. Two drops of the tincture of digitalis may be given every second hour to an infant of eighteen months, during three or four days, or longer, if the action of the heart be oppressed so as to require it. But no one of the medicines which I have mentioned is more urgently needed in severe infantile bronchitis than alcoholic stimulation. It may be employed at an early stage when the heart begins to fail, without fear of increasing the inflammation. A rule with me is to give two or three drops of brandy or whiskey for each month in the age of the infant after the third month. It should be given hourly, or each second hour, by day and by night, when the infant is awake.

Local treatment.—The external treatment of infantile bronchitis has changed greatly within the recollection of the older members of the profession. Thirty-five years ago the pernicious teachings of Broussais still had some influence, and the application of one or more leeches to the chest was recommended in the text-books. Leeching did apparently cause some alleviation of the suffering, and, according to my recollection, an easier breathing for a time; but any good which resulted from it was more than counterbalanced by the loss of strength, as indicated by pallor of the countenance and a feebler pulse. It has been properly abandoned during the last twenty-five years, and is not likely to be employed again as a remedial measure. The same may be said of vesication. Under the teaching of the schools and the books, vesication was employed after the bleeding from the leech bites had ceased. Witnessing the restlessness and increase of suffering which the fly-blister produced, I abandoned its use in the first two or three years of my practice, employing instead the cantharidal collodion, applied in points or small patches, half an inch in diameter, over the anterior part of the chest. It is now many years since I have used the Spanish-fly in any of its forms or witnessed its use in the practice of others in infantile bronchitis, and the disrepute into which it has fallen is not to be regretted.

But how shall the chest be treated? Writers mention the benefit derived from revulsive measures applied to the chest. Prof. Henoch, of Berlin, whose opinions have great weight with all who are familiar with his writings, recommends dry cupping for its revulsive effect. Says he, " Instead of leeches, I now apply wet, and especially dry cups (four to eight, according to the age), as these have at the same time a revulsive effect." The question may be properly asked, Does revulsion do any good? How can producing an afflux of blood to the surface of the chest diminish the severity of the bronchitis, since the bronchial tubes derive their supply of blood from a different branch of the aorta from that which supplies the walls of the chest? However it may be explained, slightly irritating applications which produce moderate redness of the surface of the chest do seem to assuage in a measure the suffering of the patient, and aid in procuring the needed rest. After observing their effects for many years, I have found no better mode ot external treatment for infants under the age of two years, and for all weakly infants whatever their age, than the application of a flaxseed poultice properly prepared. But instruction should be given in the preparation and application of the poultice with all the details which Abernethy was wont to give to his class. A poultice which, in a few hours after its application, lies in a mass upon the epigastrium, with the chest bare, does more harm than good. The poultice should be of uniform thickness, of about a line, between two thicknesses of linen, or thin muslin, and so moist that it wets the hands in holding it. For infants under the age of six months, camphorated oil should be thickly smeared on its under surface; for those between the ages of six and eighteen months, instead of the camphorated oil the flaxseed should be mixed with one-twentieth its weight of pulverized mustard, and for those above the age of eighteen months the mustard should be one-sixteenth part. In all those cases in which the respiration is not only hurried but painful, and accompanied by a moan, and in which the cough is painful, the whole chest should be covered by two poultices, as thin as mentioned above, one over the anterior and the other over the posterior surface, fastened together over the shoulders and under the arms by small safety-pins, and covered externally by a snugly fitting oil-silk jacket. The poultices thus made should be reapplied morning and evening. They usually cause redness of the surface without pain, but they have never, in my practice, vesicated. They should be continued during the active period of the inflammation. Repeatedly I have observed the breathing become easier by their use. At the same time, if the febrile movement be so great that it requires to be reduced, an ice bag may be placed upon the head, and the hands and forearms be frequently sponged with cool water or alcohol and water.

Cool-water dressing applied to the chest has its advocates, and, although I believe that the poultices give most relief to the majority of infants, it does not seem improbable that robust infants over the age of twenty months with high temperature may sometimes obtain relief from its use. Prof Henoch writes: "I strongly advise hydropathic applications to the chest from the neck to the umbilicus. A napkin or diaper is dipped in water at the temperature of the room, well wrung out, and then placed around the chest, without exercising any compression, so that the arms are free. This is surrounded by a roll of batting, and then covered by a layer of oil-silk or gutta-percha paper." If the temperature be high, this application should be renewed every half hour, and it may be continued several days. If it be renewed at long intervals, its effect is obviously like that of a poultice.

If the patient begins to convalesce, the application to the chest, whether water or the poultice, can soon be omitted, and batting covered with oil-silk be substituted for it. Finally, the position of the infant, when there is marked dyspnœa, indicating extension downward of the inflammation, should be frequently changed, since a change in position tends to prevent pulmonary congestion and aid the expectoration. If the infant be placed over the shoulder or upon the lap of the nurse with face downward, its expectoration is often facilitated. Moisture in the room, as that produced by boiling water, also aids the expectoration, probably by rendering the muco-pus thinner and less viscid. When bronchitis occurs in a constitutional disease, as measles or pertussis, as an element of it, it continues as long as that disease lasts, but it can be made milder or less annoying to the patient by remedies such as those mentioned above.—*Medical News.*

SOME SURGICAL POINTS IN THE TREATMENT OF PERITYPHLITIC ABSCESS.

By William T. Bull, M.D., New York.

The following case, in which a perityphlitic abscess was opened only forty-eight hours after the symptoms became acute and the patient took to bed, will serve as an introduction to the remarks I have to offer on the surgical treatment of this disease.

Case I.—On December 5, 1885, I visited with Dr. Kinnicutt a gentleman, thirty years of age, who was suffering from very severe pains in the right iliac fossa, radiating down the thigh, with a temperature of 103° and pulse of 120. The abdomen was normal on examination except in the right iliac region, where over an area two inches square there was dulness and exquisite tenderness (so that percussion was very unsatisfactory), and a sense of fulness or increased resistance on palpation. These were the only signs of an exudation. He had been in bed but forty-eight hours, although for ten days previously he had experienced a steady dull pain in the inguinal region, with occasional paroxysms which were more severe. He was constipated for a week during this time, but the bowels moved naturally three days before I saw him. His symptoms were not sufficiently acute to deter him from a week's railroad travel, and on his return from this they presented the features mentioned above.

Dr. Kinnicutt had suggested exploration, and it was done at once. The needle, thrust to a depth of three inches directly backward into the iliac fossa, produced no pus, nor was any obtained when it was thrust in front of and behind this site. A longer needle was then pushed from a point behind and above the anterior superior spine, toward the middle of the fossa, a depth of four inches, and through it the syringe drew some very offensive and bloody pus. The incision was made a few hours later, under ether, above and to the outer side of the middle of Poupart's ligament. The transversalis fascia was thickened and grayish in color, the muscular layers absolutely healthy in appearance. An incision through the fascia evacuated about an ounce of pus, very dark from blood, and of characteristic odor. No foreign body escaped, and as the time of operation was so early I did not deem it wise to thrust the finger into the abscess cavity; but an elastic bougie showed that it extended from the centre of the incision about two inches toward the symphysis and three or four toward the lumbar region. The pain and fever disappeared next day. The rubber drain was removed on the tenth day, when the cavity was reduced to a sinus four inches deep, extending toward the loins. This was slow in healing, though its orifice was dependent in the erect position. A foreign body was detected in it at a depth of three inches, at the end of six weeks, and removed with dressing forceps. It proved to be a calculus, doubtless formed in the appendix. The sinus closed in a week. The concretion is as large as a white bean, calcareous in composition, the salts being arranged in concentric laminæ, and with no foreign body as a nucleus. Chemical examination has not yet been made.

In this instance the operation was performed at an earlier moment than in any case that I have seen recorded, and I think that the thorough exploration with the needle and hypodermic syringe was the chief factor in bringing it about. I have several times withdrawn pus from the iliac fossa, through a puncture made from the lumbar region downward and forward toward the middle of the iliac fossa, when punctures directly into the fossa or the tumor occupying it were fruitless. A good-sized needle is indispensable (No. 3 or 4 of the French scale for urethral instruments), and a "tight" syringe. These punctures are harmless, and should be made into the lumbar region as well as the iliac fossa. We are all familiar with their value as a means of diagnosis, but I would like to emphasize the advantage of making such thorough explorations as I have described.

But I desire to claim something more for the needle, and that is that it is the only trustworthy means of ascertaining the presence of pus. Both the general symptoms and the local conditions mislead us in this respect. There are patients who are attacked with high fever, severe pain, chill, and even sweating, whose inflammation undergoes resolution; and there are others in whom the abscess reaches great proportions with trifling disturbance.

Dr. Robert F. Noyes, in a paper read before the Rhode Island Medical Society in 1882,* mentions a case reported by Dr. Edson, where the formation of abscess was "indicated by chills, pointing, and a temperature of 103.4°. The case terminated suddenly by absorption. There was no discharge from the rectum, and no external opening." In the following case I was lulled into a feeling of security by the absence of constitutional symptoms, and allowed a week to elapse before making an exploration with a needle, while an abscess of huge proportions was present all the time.

Case II.—On August 28, 1885, I saw with Dr. U. G. Hitchcock a gentleman, aged fifty-nine, who had been sick for six weeks. His illness commenced with chilly sensations, fever, and slight pain in the iliac fossa, where there was found tumefaction. There was constipation, and the symptoms continued till, at the end of about two weeks, he was relieved of a mass of impacted fæces. Then he improved so as to be able to walk about, but there remained a slight pain in the iliac region, an evening temperature of 100° to 100½°, pulse of 90 to 100, and on my first visit there was a distinct tumor in the iliac fossa, not very tender, not fluctuating, giving dulness over an area as large as the palm of the hand. The abdomen was elsewhere normal, the abdominal wall over the tumor not involved, and the bowels moved naturally, and only a dull pain was complained of. But there had been no improvement for some days, and the general debility was sufficient to keep the patient in his room. I advised waiting a few days before making an exploration. A week later the condition was unchanged. A large hypodermic needle was introduced through the same puncture, thrust backward toward the brim of the pelvis directly downward, and also forward toward the symphysis. From the latter situation a syringeful of pus was drawn. The following day, through the usual incision, three inches long, an abscess was opened, which contained at least a pint of pus. Its cavity reached forward beyond the line of the rectus muscle and backward into the connective tissue behind the ascending colon. There was no foreign body seen. It healed completely in two months, but the patient was much prostrated in the fourth week by a pleuro-pneumonia of the right lung. This was succeeded by an arthritis of the first right metatarso-phalangeal articulation and a periostitis of the right eighth rib, from which he is slowly recovering.

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*Transactions of the R. I. Medical Society, 1882.

These considerations lead to this conclusion: That in perityphlitis the general symptoms and the local conditions may furnish valuable indications of the presence of pus, but thorough exploration with the needle is the best means of diagnosis. Dr. Sands,* in 1880, expressed the same view. "Everything depends upon an exact diagnosis, . . . and I would suggest a more frequent employment of the aspirator, as affording the most reliable test at our command for purposes of diagnosis."

Opening into the bowel has generally been followed by recovery; but it is sometimes followed by external opening, or burrowing of the matter into the lumbar region, or into some viscus, as the bladder, for instance. In a collection of 67 cases which I made for an inaugural thesis in 1872 (*New York Medical Journal*, September, 1873), I found 15 in which the abscess burst into the cæcum. In 10 the cæcum alone was invaded, and 9 recovered. In 5, after the discharge into the bowel, external opening occurred three times with two deaths, and once into bladder, and once into bladder and externally as well. The two last cases recovered.

The tendency of the pus to burrow has not been seen after external opening by operation. The sinus left is stated by all writers to have closed promptly. In view, then, of the liability to continuance of the suppuration after a discharge of pus has taken place from the bowel, I would urge the wisdom of keeping careful watch over these patients, and to explore the lumbar region promptly and repeatedly with a needle, if the general condition do not improve; and I find in the uncertainty of the result after opening of the abscess into the bowel another argument in favor of the operation at the earliest possible moment.

The following case in which a large lumbar collection, which gave rise to dangerous symptoms, followed two discharges of pus per rectum. The local signs of abscess were quite masked by the presence of gas in the abscess.

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*Annals of the Anatomical and Surgical Society, Brooklyn, vol. ii., No. 7, 1880.

Case III.—A gentleman, aged sixty, rather corpulent, with thick abdominal walls, was attacked February 28, 1883, with violent pains in the abdomen, a sharp chill, followed by a temperature of 107°, and sweating. He was constipated, and vomited a number of times. The following day the vomiting stopped, the fever fell to 103°, there was general abdominal tympanites, the constipation continued, and the pain became located in the right iliac fossa, which was tender. There was no tumor. I saw him with Dr. George E. Moore, and called Dr. Kinnicutt. We regarded the case as one of perityphlitis, or typhlitis from impaction of fæces. With rest in bed, opium, and a mild laxative, there was marked improvement after a few days. The pain remained, but was less severe; the fever was only 100° at evening, the bowels moved, and on the tenth and twelfth days there was considerable pus in the stools. All the local signs of inflammation in the iliac fossa disappeared. Between the twelfth and seventeenth day, however, he grew worse. The fever remained about 101° in the evening, with a rapid pulse, and occasional delirium at night. The tongue was dry and furred and the prostration extreme. No vomiting occurred, and the bowels acted after calomel was given; but the tympanites was very great. Locally there was nothing abnormal to be elicited save a slight tenderness in the lumbar region and a suspicion of œdema of the subcutaneous tissue. Once or twice the integument showed a patch of erythema, which disappeared in a few hours. On the eighteenth day Dr. Draper saw the patient, and we made a puncture with a *small* aspirator-needle, which showed nothing. Through a large needle stinking pus was withdrawn. An incision was made on the nineteenth day, horizontal in direction, and nearer the crest of the ilium than the ribs. About two pints of pus came away, with several connective-tissue sloughs two or three inches in length, but no concretions. The cavity of the abscess extended nearly to the symphysis. With drainage and irrigation with weak carbolic solution it healed completely in four months. For a week or ten days fæces in small quantities escaped through the sinus.

The necessity of opening the abscess early—and long before fluctuation has occurred—has been insisted on with justice by a number of writers. I have but one suggestion to make on this point, and that is that, in determining the *time* to operate, the *duration* of the illness should play a rôle subordinate to that of the results of exploration with the needle. It is certainly undesirable to operate too early, when the pus may not have formed, or the inflammation be going on to absorption. It is equally undesirable to defer the incision and subject the patient to the risks of an unfavorable course on the part of the pus. A sort of "time allowance" has been fixed by some surgeons. Gouley fixes the seventh or eighth day as the proper time for incision; Weber, "not beyond the ninth or tenth;" Sands,* from the twelfth to the eighteenth day. From this discrepancy it is obvious that the "time allowance" is of no use, and

*Noyes, loc. cit., p. 21.

that it will be far wiser to be guided by the evidence afforded by *needle exploration.*

It may be well to mention the results of Dr. Noyes' investigation of one hundred cases of abscess, treated by incision, as the paper may not be accessible to all. Of these one hundred cases, eighty-five per cent. recovered. The mortality was but fifteen per cent. In the sixty-seven cases collected by myself in 1872, where no early operation was done, the mortality was forty-seven per cent.

I have yet to hear of a single operation which has led to bad results. Even when no pus was found, the incision has proved of use in relieving the pain and fever, and diminishing the tension, and directing the course of the pus toward the surface. Several such cases have been reported. In one instance I found pus with the needle, but could find none on incising the abdominal wall, and none appeared subsequently, except from the wound.

Case IV.—On January 27, 1885, a boy, aged seventeen, was admitted to my wards at the New York Hospital, who, two weeks before, had been suddenly taken with pains in the abdomen, and vomiting. This was followed by fever, and there was great pain in the right iliac fossa and lumbar region. The bowels were regular, and the appetite good, but the pain and fever continued in spite of medical treatment. When admitted he had pulse, 120; temperature, 103° F., and the region just above the crest of the ilium on the right side was tender and painful. The abdominal wall was normal; there was no bulging, but an increased sense of resistance on palpation, and dulness on percussion between the crest of the ilium and the free margin of the ribs. There was trifling œdema of the subcutaneous tissue. A hypodermic needle was introduced just behind and above the anterior superior spine of the ilium, and a half-drachm of very offensive pus drawn out. Under ether an incision three inches long was made, parallel to the iliac crest and down to the peritoneum. Several punctures of this membrane in different directions discovered no pus. The wound was stuffed with iodoform gauze and carbolized fomentations applied. The following day there was no more pain, the temperature fell to the normal, and even the swelling and tenderness were not perceptible. No matter was discharged in the stools. The wound healed in two weeks and a half.

In this case the change in the patient's condition after the incision was most marked, and I see no reason to criticise it. In fact I feel convinced that in the aggregate of cases more good than harm would be done by an early incision, even if the needle detected no pus, provided only that the surgeons were led on by the indications furnished by the general and local symptoms.

Attention has been called by Dr. Burchard, of this city, to the cases of perforative typhlitis in which the cavity of the peritoneum is invaded early, with fatal result. Laparotomy has been rightly considered desirable in such cases. The following case bears on this matter.

A laborer, aged twenty-five, was admitted to my service at the New York Hospital in this condition. His pulse was 120; respiration 30; temperature, 103°, with considerable general tympanites and great pain, referred particularly to the right side and iliac fossa, and radiating down the thigh. The right iliac fossa was very tender and offered an increased resistance on palpation. It was not dull. Two days before he had a chill, followed by high fever and vomiting. He was constipated, but the bowels had moved once after an enema. The needle detected pus only in the lumbar region, where there was no tenderness. An incision was made there down to the very wall of the colon, and but a drachm of offensive pus found behind the colon. The finger was not introduced, but a probe, and a bougie as well, did not detect any softened tissue in any direction farther than an inch. The symptoms of general peritonitis persisted, and he died in two days. The autopsy disclosed a general suppurative peritonitis, perforation of the appendix in two places near the cæcum, and fæces in the connective tissue of the iliac fossa, which was softened and necrotic as far up as the liver, but not yet broken down so as to form much pus, *and nowhere communicating with the peritoneal cavity.* The incision fell in the middle of this tract. In this case inflammation of the peritoneum, and of the connective tissue of the iliac fossa, must have been nearly coincident; and it is doubtful in my mind, since the process had involved so large an extent of tissue, if an operation would have effected a cure. But if a similar case should occur to me again, I would certainly pursue the investigation at the time of operation to the point of seeing the appendix and ascertaining its condition. I am supported in this conviction by the evidence of a somewhat similar case under the care of Dr. Richard Wiener, in which, after the symptoms of perityphlitis had lasted a day or two, those of general peritonitis supervened. The patient, a boy, aged fourteen, lived three weeks. On autopsy there was found general peritonitis, and an abscess behind the cæcum and ascending colon, which contained a pint or two of fluid fæcal matters. The appendix was perforated in two places, but there was no communication between the abscess and the peritoneal cavity.—*N. Y. Med. Record.*

MENINGITIS.

No better subject for discussion at a clinical society could be chosen than that of meningitis. The ignorance that still prevails about it, the variety of its clinical course, the difficulties of diagnosis and prognosis, the questions of its etiology and natural history, all combine to render the subject as fascinating to the clinical physician as it is monotonous to the morbid anatomist. Its modes of onset are multiform, and its further course and ultimate issue are as uncertain as any process can possibly be. Mere languor and lassitude, unexplained pyrexia or constipation, vomiting without other symptoms, fits of all kinds, hemiplegia, disturbance of pulse or breathing, and vaso-motor disorders, may mark the onset in different cases. At the discussion on Dr. Goodhart's able and suggestive paper at the last meeting of the Clinical Society many most interesting points were raised. Is otitis interna or media a cause, consequence, or mere concomitant of meningitis? Who can tell? Dr. Bristowe stated his belief, in which we concur, that in the majority of cases the aural disease should be regarded as a mere companion of the meningeal inflammation. With regard to tubercular meningitis, this opinion is probably most true; it may be less true of the simple form of meningitis. And this leads up to the first great distinction to be drawn in discussing this disease. It is of the first importance, as Drs. West and Bristowe insisted, to distinguish between the tubercular and the simple forms of meningitis. Then, bearing this in mind, we ought to consider the difficulties in diagnosis of the two diseases. On the whole, we are disposed to think that tubercular meningitis is far more difficult of diagnosis than the simple variety. A still further distinction is necessary between the diagnosis of tubercular meningitis in the very young and the same disease occurring a little later, before and after the second dentition. Tubercular meningitis may occur at all ages, and cases are on record of its appearance before the first tooth has been "cut." At these very early periods of life the diagnosis is of the most difficult nature, and fatal cases of obscure disease, exhibiting most if not all the symptoms of meningitis, have been found post-mortem to be destitute of the slightest sign of meningeal affection. To put the case more explicitly: retraction of the head, convulsions, pyrexia, irregular and rapid pulse, disordered breathing, vaso-motor disturbances, and even squint, have been observed as chief symptoms, when the necropsy has failed to reveal any disease in the cephalic cavity. We should place a mark against optic neuritis, and regard its certain presence, or that of choroidal tubercle, as the most infallible proof—taken with the other symptoms and clinical course—of the existence of meningitis—of course tubercular if the choroidal sign be present.

On other points raised in the discussion we think there should be more unanimity of opinion than now appears to exist. That simple meningitis may recover seems to us to rest on evidence of the most irrefutable character. That tubercular meningitis may cease to give rise to symptoms must, we opine, be also regarded as beyond doubt. At least it is difficult to explain what happens in several cases unless we accept this doctrine. Cases have occurred in which competent observers have watched the progress of symptoms affording the strongest presumption of the presence of tubercular meningitis, which have progressed favorably for a long time, and then the illness has reappeared with its usual aspect and fatal termination. In one such case that has come under our observation, a slowly recovering hemiplegia remained with a child for several months before the appearance of the final fatal illness. A necropsy revealed the signs of an old cerebral softening in the neighborhood of the opposite internal capsule, together with a mixture of tough and soft inflammatory tubercular products, the respective results of the old and recent morbid processes—a geological kind of evidence that seems to be of a conclusive nature.

A further point is the mode of origin of some cases of simple meningitis. Dr. Sydney Phillips spoke of a case of purulent cerebro-spinal meningitis supervening on measles, in which a necropsy proved the accuracy of the diagnosis and failed to detect any otitis. Dr. West stated as within his own experience that other eruptive fevers than measles may be the starting point of meningitis of a simple kind. One of the most interesting cases that Dr. Goodhart related seemed to show that septic poisoning may also be a cause of simple meningitis, and it is to be regretted that a necropsy was not obtained in his case, which otherwise had every appearance of supporting his opinion; on this etiological point, also, Dr. West seemed to entertain no doubt. There was one statement that Dr. West ventured to make, on which, if we understood him aright, we should like to join issue. It was to the effect that when tubercular meningitis was in action the temperature never rose above 101° or 102°. As to this we have not the slightest doubt, founded on clinical with subsequent post-mortem evidence, that tubercular meningitis may be accompanied by as high a temperature as any other disease, cerebral, thoracic, or abdominal.—*Lancet.*

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

The Advisability of Abdominal Section in Medical Cases.—In a communication on this subject in the *Lancet,* W. F. Wade, F.R.C.P., Senior Physician to the General Hospital, Birmingham, says: The Birmingham school of gynæcological surgeons has increased the resources of civilization, and their fellows elsewhere are, somewhat slowly and reluctantly perhaps, following in their footsteps. But the sick public will not have the full benefit of these new resources till we who practice medicine give our fiat and sanction to them. Ought we to do so? I am not a surgeon, and therefore am not swayed by a desire to operate whenever an operation is possible, as some suppose habile operators to be swayed. On the contrary, I feel always a certain amount of chagrin when compelled to say, "Medicine is powerless, but surgery is not." Yet I feel obliged to admit that in some cases, which have up to now been regarded as exclusively medical, our efforts ought to be supplemented or supplanted by those of the surgical operator. Another question now naturally arises: In what class of cases, and to what extent in that class? This is a question which I regard as still *sub judice.* Instead, then, of attempting to give a direct answer, for which the time has not yet come, I will very briefly narrate four cases which have happened to me in the ordinary course of private practice within the last six months, in which I suggested the advisability of abdominal section, and in which, in accordance with that advice, it was performed.

1. An elderly lady had for more than a year had at intervals symptoms of the passage of gall-stones, severe pain requiring morphia, and jaundice; perfect recovery in the intervals. For some weeks before I saw her the intervals had been so shortened that the jaundice of one attack had not time to disappear be-

fore the next occurred. Her appetite and strength were failing, so that her condition was becoming precarious. She was believed to have had about 100 attacks. I told her that she might have a hundred or two more stones to pass, and that before the bladder was emptied she might perish from exhaustion; that I considered she was in greater danger from this than she would be from an anæsthetic and the operation. The latter risks I therefore advised her to accept. I have never seen her since, but heard that she had decided to do so, and had placed herself under Mr. Tait for the operation, the result of which he has given in *The Lancet*. (The case terminated successfully.)

2. A child six years of age was attacked with abdominal symptoms of a mild character, fairly supposed by the family attendant to be due to gastro-intestinal disorder. After three days, he one morning became suddenly much worse. As I happened to be away all day on a country journey, I did not see him till late at night. He was then in a condition which must pretty evidently be fatal, and which indicated the existence of peritonitis. I advised that the only chance left for him was to have his abdomen open. This was done by Dr. Malins, and a good many ounces of most abominably fetid pus escaped. He was more comfortable after the operation, but died in about twenty-four hours, and I do not know that his death was either delayed or hastened by the operation. But I assume that a person is more likely to recover without than with a quantity of fetid pus in his abdominal cavity.

3. A boy of twelve was much reduced by peritonitis of three months' standing, and consequent hectic. On the right side of the abdomen, about the ileocæcal region, was evidently a collection of what we presumed to be pus. There was on the corresponding left side (where the inflammation had begun) tenderness, but no evident collection. I advised the friends that it would probably be necessary to open the abdomen. But, as they were anxious to avoid this if possible, we agreed to have a further trial of medicine, and gave him some syrup of the iodide of iron and some conium. He improved as to general condition, but, after a second relapse, the local conditions remaining unaltered, I pressed them to consent to an operation, which they did, and Mr. Tait opened three loculi containing pus, one on the right side, one on the left, and one deeply seated towards the back. There was an immediate return to normal temperature, but there have been two recrudescences of fever, and the case, which it was all along feared might be of a tubercular character, is still in abeyance.

4. A female of about thirty, married, was said to be suffering from peritonitis. This was undoubtedly so, and her aspect, pulse, temperature, and vomiting showed that she was in a very serious condition. She referred her subjective symptoms to the upper part of the abdomen; they had existed severely for several days. But on further inquiry there was a previous history of pain for several days of a slighter character, and in the left ovarian region. Vaginal examination showed a good deal of fulness and extreme tenderness to the left of the uterus. I came to the conclusion that the original seat of disease

was the left uterine appendages, and that there was very probably pro-salpingitis. I advised that if the symptoms did not abate, and still more if they increased, the abdomen should be opened and this region explored. This was done about a fortnight after by Dr. Savage; the appendages were with difficulty removed; the ovary was enlarged and inflamed, and pus was found in the Fallopian tube. The patient did well.

These cases admit of, and indeed suggest, plenty of discussion, comment, and criticism. But into this I do not propose now to enter, my present object being only, as stated at the outset, to show that there are cases hitherto supposed to be purely medical, and as such met with in a purely medical practice, which do admit of, and in my opinion require, surgical interference. These cases were, it will be noticed, treated by gynæcological surgeons; but at least two of them any good general surgeon—one, for example, who would not hesitate to operate for strangulated hernia—ought to be quite prepared to undertake.

THE PRODUCTION AND PREVENTION OF PERINEAL LACERATIONS DURING LABOR.—In the *Journal of the American Medical Association* of March 6, Dr. H. T. Byford, having called attention to the peculiar qualities of the obstetric perineum, and the manner in which it is affected during labor, says that the lost link in the delivery of the head is seen to be the absence of an efficient directing force towards the vulval outlet. Or, to express it differently, the head has got beyond the reach of its efficient directing forces before it is delivered. This great mistake of nature, as it thus appears, has led to the invention of numerous devices for supporting, or, more properly speaking, managing, the perineum.

There are five methods of doing this:

1. Supplying the directing force, by pressing up the head so as to hold the sub-occiput under and against the pubic arch.
2. Supplementing the resisting force of the perineal centre by pressing against the advancing head, and thus gaining time for relaxation above.
3. Goodell's manœuvre of pulling forward the deeper portions of the perineum, and so diminishing the tension.
4. Artificial dilatation.
5. A combination or modification of some of these four methods for the purpose of securing the delivery of the head between pains.

Almost all lacerations that occur may be described under three heads: Lacerations of the vulval perineum; of the vaginal perineum; and compound lacerations, or those which involve both of the structures.

Having given a description of the three varieties, he goes on to say: These, though by no means all, may, I think, be taken as a representation of the usual forms and methods of occurrence of perineal lacerations. Prevention, applied to them as a class, would, according to the observations presented, involve two principles:

1. To make the advance of the head slow enough to allow the parts to dilate to their utmost without tearing.

2. To secure sufficient dilatation or relaxation of the vulval and vaginal orifices to bring their axes to correspond with the axis of the parturient canal, so as to enable the head, as it gets beyond the influence of the uterine and pelvic directing forces (the amniotic fluid, the pubes, sacrum, coccyx, ligamentous perineum, etc.), to find a directing force in the vulval and vaginal orifices or rings.

In endeavoring to diminish the rapidity of the progress of the head, it is well to take two points into consideration:

That uterine action becomes more efficient as labor advances, on account of the increased length and frequency, rather than the increased force, of the contractions (Schatz).

2. That when the head is capped by the membranous perineum, and therefore is not delivered until it has passed entirely beyond the bony pelvis the uterine contractions have at last almost no direct effect upon its advance, and the abdominal pressure or straining of the mother becomes the chief propelling force (Schröder).

Hence, if we wish to diminish the propelling power during the passage of the head through the pelvis, we may often with advantage give remedies which will act between the pains to diminish their frequency, such as opium, chloral, etc., yet without very much affecting their force. Chloroform, given only during pains, diminishes their force without much affecting their frequency. Later, when the abdominal muscles are the prime forces, we may regulate the advance of the head by controlling them.

The prevalent practise of accelerating the progress of labor until the head greatly distends the perineum, and then using counter-pressure to keep the vulva from being lacerated, is to deliberately injure the pelvic floor, and then court rupture of the uterus.

Perhaps the best means of securing a normally slow advance of the head is to preserve the pouch of membranes. This may be done by keeping the patient quiet, discouraging all violent bearing-down efforts, making but few digital examinations between and none at all during pains.

Artificial dilatation of the vulval and vaginal orifices has been advocated by Ernest Trestrail (1875), Mossman (1880), Alex. Duke (1883), and Alfred Carr (1883). Latterly, Professor Léon Dumas has developed a very efficient method of digital dilatation of these orifices, and has practiced it with gratifying results (*Montpelier Medical*, August, 1883, —"Dilatation Prœ-fœtale de la Vulva"). In my own practice I utilize the pouch of membranes for this purpose also. The vulval and vaginal orifices, being relaxed and averted, are, in most normal cases, less resisting to the pouch than was the os uteri. After being dilated by the pouch, they allow of the rapid passage of the head, thus shortening and greatly lessening the usual anguish of the last moments of labor, and reversing the fashionable mode of hurrying up the second stage to save pain, and then checking the advancing head at the final period of severest suffering.

When the bag of waters persists, the perineal rings are better prepared for the delivery of the head while the forehead is still on the sacrum, than they are after the chin has passed the coccyx, in those cases where the membranes have been ruptured at the end of the first stage. Besides this, the head has a third less distance to travel during the second stage until born, and thus takes a third less time at a given rate of advance.

In thus advocating a bringing down of the fourchette, I only seek for an imitation, in all cases, of the mechanism that sometimes occurs in young primiparæ, and often in multiparæ, where the vulval and vaginal outlets are normally and therefore greatly relaxed, and where neither pouch presents nor fingers interfere. There is much less work either for the pouch, if left alone, or the fingers, if *properly* used, than is generally supposed. But that little work is often of prime importance.

HÉGAR'S SIGN OF EARLY PREGNANCY.—Dr. Egbert H. Grandin, Obstetric Surgeon, Maternity Hospital, New York, having inquired, in a paper in the *N. Y. Medical Record*, if there is any diagnostic sign by means of which, at the first local examination, the existence of pregnancy may be determined with almost positive certainty as early even as the fifth week of utero-gestation, says that such a sign is offered to us by Hégar. Since his attention was first directed to it, eighteen months ago, he has had frequent opportunity of putting it to the test, and has by means of it been able to assert as early as the fourth to the sixth week that gestation existed. This statement, in face of the teaching of all our text-books that certainty of pregnancy cannot exist until the fœtal heart and fœtal movements are appreciated by the accoucheur, and that before this period all other signs conjoined are simply of presumptive value, undoubtedly appears strong; but his experience, he says, so far as it has gone, justifies him in his belief.

In order to make the sign clear, he calls attention to the gross changes which take place in the uterus prior to the second month of uterine gestation: that is to say, before any classical physical signs—such as discoloration of the vaginal mucous membrane, softening of the cervix—have become at all marked. During the first six to eight weeks of pregnancy the changes in the uterus are practically limited to the body of the organ. The uterine body enlarges, especially in its transverse diameter (antero-posteriorly); the muscular substance becomes less dense. These changes are simply the result of the hyperæmic condition into which the corpus is thrown and kept by the engrafting of the impregnated ovum. As the result of such changes, the uterine body loses its nulliparous pear-shape; its contour no longer gradually diminishes as it approaches the uterine neck; the body, on the contrary, "bellies out" over the cervix in all the transverse diameters, in particular antero-posteriorly, and the organ, instead of being pear-shaped, resembles very much an old-fashioned fat-bellied jug.

The above changes in the consistency and shape of the body of the uterus constitute Hégar's sign, and so far, in at least a dozen cases, it has never failed him in early diagnosis. The obtaining of this sign requires, of course, a certain expertness in the bi-manual palpation, and familiarity with the sensation communicated to the finger by the nulliparous uterus, and the uterus altered pathologically in one or another way. He has found, however, in clinical teaching, but little difficulty in making even inexpert fingers conscious of the change. In the vast majority of cases, owing to the normally slight anterior curvature of the uterus, the internal examining finger will note this sign to the best advantage in the anterior cul-de-sac. Here the finger, instead of following the line of the cervix in a gentle curve up on to the body, is at once conscious of the body swelling out to a greater or lesser degree, according to the date of impregnation, over the cervix, and at the same time, bi-manually, the body is faintly boggy, resilient, compressible. If such be the condition of affairs detected by the local examination, in the absence of rational history, in the absence of slight softening at the tip of the cervix (which may, if present, mean erosion), and of mammary signs and blue discoloration of the vagina (both of which, if present, may mean ovarian disease), he now unhesitatingly pronounces the patient pregnant. The question arises, Are there other conditions which may simulate the above sign? There are two which he says he can imagine might—distended bladder and uterus distended by menstrual blood. Neither of these conditions ought, however, to give rise to error, for a necessary prelude to a careful bi-manual is evacuation of the bladder by means of the catheter; and retained menstrual blood in the uterus, if not accompanied physically by imperforate hymen or vagina, would necessarily be suggested by the history (no ground for falsifying here) before sufficient had collected to give rise to even faint fluctuation. Hyperplasia of the corpus uterus cannot simulate this sign, because in this condition the conjoined touch reveals density; sub-involution cannot, because here the uterus is increased in its longtitudinal as well as in its transverse diameters, and conjoined touch, while revealing heaviness and softness, does not reveal resiliency and compressibility. The markedly anteflexed corpus uteri, hyperæmic from obstructed circulation, is most likely to simulate Hégar's sign, but in case of such distortion the feeling of resiliency and compressibility is also lacking. In marked retroversion this sign is likely to fail on account of the difficulty of palpating with ease the uterine body. Rectal examination might assist here, but as yet I have had no opportunity to seek for this sign in case of this variety of displacement. Compes, who, as far as he is aware, is the only observer who has published observations in regard to Hégar's sign, says that it may always be obtained to better advantage by means of the thumb in the vagina, the index in the rectum and the other hand externally. He thus, he tells us, reaches the portio vaginalis with his thumb, places his index finger above the sacro-uterine ligaments, and when the external hand depresses the fundus is able, to better advantage, to explore the lower uterine segment. Dr. Grandin says that he fails to see in what respect this manœuvre is superior to the vagino-abdominal method which he practises, aside from his belief that it must be only very exceptionally that the thumb can reach the cervix *per vaginam* while the index is above the insertion of the posterio uterine ligaments *per rectum*.

Seven of his cases were seen at the Polyclinic in the service of Professor Mundé: four were private, and in these, as well as in the clinic cases, the certainty of diagnosis was established by after-observation, In seven additional cases an early diagnosis was likewise made, but he says he does not use them in support of his belief in the efficiency of Hégar's sign, because none of these cases were seen a second time. He states that largely by means of this sign Dr. Mundé was able in one case to make a positive diagnosis as early as the fifth week, although both husband and wife assured him of its impossibility on account of the precautionary measure they were in the habit of taking. In order to settle the value of this sign positively, it is of course apparent that others must note the result of their experience. As the matter now stands, he is inclined, from a limited experience, to consider this sign infallible.

CLINICAL HISTORY OF A CASE OF HEMORRHAGIC MALARIAL FEVER; MICROSCOPICAL EXAMINATION OF URINE AND BLOOD; TREATED BY LARGE DOSES OF ARSENIOUS ACID; PROMPT RECOVERY. Dr. Benjamin Hogan Riggs, of Selma, Ala., says, in the *Medical News*, that about 1:30 o'clock, on the morning of December 15, 1885, he was summoned to Eugene B., a white youth, aged over sixteen years, reported as being seriously ill with "yellow chills." The young man had had many attacks of this dangerous malady since childhood, this being the third attack since August last, 1885. He was one of those in whom quinine always caused "hemorrhage from the kidney."(?) Therefore, he had never been able to use the bark derivatives. In his two previous attacks this year and last year, he had "brought him through" with piperine, Dover's powder, calomel, tincture of iron, and extract of ergot. His was thoroughly a case of malarial cachexy: he had a spleen as large as a peck measure, hard, sore, and extending down to the crest of the left ilium, and to the right of navel. He had purpuric spots on both legs, and had been under antimalarial treatment since previous attacks, but still had them. On the morning of the 16th, he found he had had a very bad night; passed large quantities of port-wine urine; was now very sick at stomach; was drowsy; skin dry; fever gone; urine cleared up to the "meal-bran" look when cold; a little deeper color than natural when first passed, but clear; bowels had not acted well; ordered to stop iron mixture, and put on the compound iron and quinine citrate salt in 15 gr. doses to a teaspoonful of equal parts of syrup of ginger and water every two hours; Seidlitz powder to be given at 11 o'clock; hot bath to relieve symptoms of uræmia. Accidentally failed to get a specimen of the urine for examination. Returned in two hours. Bath had made him feel better; bowels had not acted freely; still much nauseated; vomited matter of deep orange, almost red color, but when mixed with the water of the slop tub was yellow. Gave a hypodermatic of ¼ gr. of morphine, and 1-120 gr. of atropine. Ordered another Seidlitz powder at 1 o'clock. Was called in a hurry at 2 o'clock, with information that he had another chill. He found him again freely passing port-wine urine, very much nauseated, very restless, and with high fever coming on. Ordered the hot bath again, as there was drowsiness, and he feared uræmic poisoning. He determined now to resort to the compound which was successful in the last two attacks—piperine and Dover's powder, but to add arsenic to it. He ordered the following capsules, supplementing the Dover's powder by the hyoscyamus extract, on account of the ipecac of the powder:

℞.
Acid. arsenious, - - - - - - gr. ¼.
Piperinæ, - - - - - - - gr. ij.
Pulv. Doveri, - - - - - - - gr. x.
Ext. hyoscyami, - - - - - - gr. v.—M.
Five capsules.

Sig.—One capsule every three hours. To be taken during the night and next day.

At 7 P. M. his temperature in the mouth was 104°; pulse 120, full and soft. Commenced the capsules at 8 P. M., and gave another at 1, 2, 5, and 8, same night; ¼ gr. of arsenic in twelve hours.

17th.—9 A. M., found him much better, but complaining of nausea. Temperature 95°, pulse 116. Renewed the previous prescription; gave capsules at 11 and 2; he thus took 7-20 gr. of arsenic in eighteen hours. At 6 P. M. to-day, temperature 98°; pulse 104; temperature remained normal. On night of the 16th had passed an ordinary chamberful of the dark urine. Some symptoms of œdema arsenicalis supervened this afternoon; so lengthened the intervals of the arsenical doses; gave the three remaining capsules (of the second five) at 8, 2, and 7 o'clock the night of the 17th, thus giving ½ gr. of arsenic in thirty-five hours.

18th.—Doing well; more marked symptoms of arsenical impression. Took a drop of blood from tip of finger for microscopic examination. Patient looked exsanguine.

19th. At 2 P. M. took another drop of blood from top of left ear for examination.

Patient convalesced after this steadily; was put on pill of citrate of iron and quinine, strychnine, lactopeptine, and arsenic, so as to take 1-16 gr. arsenic daily; and to take at night a portion containing potassic iodide, ext. ergot fl., and ext. polymnia medalia fl. (bear foot), for the enlarged spleen.

At this writing, January 6, is still on this treatment, and much better. Size of spleen reduced.

Dr. Riggs then goes on to say: I am disposed to believe that full doses of arsenic constitute the best treatment for this fatal disease. It is safe to give it in ⅛ gr. doses every three hours until the patient is relieved or the full effect produced. In other words, the arsenic can be pushed safely until the eyes puff and have a purplish ring beneath them; the fingers feel stiff and puff up; the skin burns (to the patient) and itches; the stomach burns and gripes; there are thirst, dryness of the throat, and may be a degree of constriction; tendency to looseness of bowels. These symptoms immediately disappear upon discontinuing the remedy. Liquor potassæ arsenitis—Fowler's solution—represents, according to the last edition of the *United States Dispensatory*, nearly 1 grain of arsenious acid to each 100 minims; it takes, thus, one drachm and four-sixths to equal 1 gr. of arsenic. I have no doubt that it would be proper to give this elegant preparation in place of the arsenious acid. Twelve mimims might be given every three hours until some effect was produced, as this corresponds to ⅛ gr. doses of the acid. The objection to giving arsenite of potassa or soda hypodermically is its very irritating local effect. Four or five minims diluted with tepid water, in desperate cases, might be given every three hours for a while. Dr. B. C. Adams, of Liberty Hill, this county, informed me a few days ago that he gave a patient, successfully, ½ gr. arsenic in nine hours—*i. e.*, ⅛ gr. at twelve, three, six, and nine o'clock, successively, beginning at twelve, noon, and the other ½ gr. during the succeeding night and next day, at intervals of four hours, thus exhibiting 1 gr. in twenty-four hours. Dr. Jos. A. Groves, of Brown's and Dr. Robt. H. Cochran, of Mortin's, this county, have also used this remedy, in this disease, with satisfactory results.

Appended is the report of Dr. C. J. Clark, who made microscopic examinations of the specimens of the blood and urine collected.

"Dec. 18.—A drop of blood from the tip of the finger showed normal blood disks, but I should say fewer than in the slides from healthy persons compared with it. The larger portion had the normal shape and size, but others were crenated, and otherwise misshapen, or reduced in size, while there were amorphous particles that might be the débris of red blood-corpuscles. A drop of water was mixed with this blood when first caught on the slide.

"20th.—A drop of blood from the tip of left ear, taken on afternoon of the 19th, was placed between two slides and compressed to thin it out, as it was a large drop. The bottom slide examined separately exhibited many blood-corpuscles, while the top showed masses of amorphous materials taken for destroyed blood corpuscles, with some illy defined and misshapen disks.

"17th.—The urine was examined· A pint of fluid was brought of a dark wine color, looking as if it contained blood in abundance. Several slides were carefully prepared and examined with different powers. Not a blood disk could be found; nothing but a few epithelial cells and tube casts. I should say the color of the urine was due to the destruction of red corpuscles and the discharge of the hæmatin through the kindeys.

"Different powers were employed in these investigations, varying from 400 to 1600 diameters. Doubtless, in other cases with much engorgement of the kidneys, red corpuscles are discharged in the urine, along with a large amount of hæmatin from disorganized red corpuscles."

Dr. Riggs concludes as follows: In 1869, Dr. H. S. Hudson, now of Summerfield, Dallas County, Alabama, and myself, made some microscopic examinations of blood taken post-mortem from the portal vein of a colored female dead of this disease, which were published in the *Richmond and Louisville Medical Journal* of July, 1870. We found the blood mass to be remarkably dense (as there was very little blood left in the body) and homogeneous. The blood corpuscles were deficient in number, irregular, and shrivelled. There were also a great many dark granules discoverable on the slides. Prof. Joseph Jones, of New Orleans, examined a specimen of this urine, and reports as follows: "As a result of this examination, therefore, we have a urine of low specific gravity, loaded with casts of the tubuli uriniferi, filled with hæmatin, deficient in urea, abounding with biliary acids, coloring matter, and containing a small amount of albumen. I was astonished at the amount of bile contained in the specimen of urine, and the solid matters of the urine appeared to be chiefly those of bile."

ABSTRACTS.

THE NEUROTIC TREATMENT OF CATARRH. (Dr. David B. Lees, in the *Lancet*).—If it be true that catarrh is a reflex neurosis, it is clear that a treatment which is essentially diaphoretic must miss the mark. It is to neurotic remedies that we must look for alleviation and cure. The indications for treatment are three: We need to soothe the reflex disturbance of the central nervous system, to quiet the local congestion and hyperæsthesia of the nasal mucous membrane, and to arrest the flux, if it have already commenced. The first indication may be to some extent met by the administration of opium. It is to the sedative influence of this drug on the nervous system, rather than to any diaphoretic action which may result, that Dover's powder owes its reputation in the treatment of catarrh. Laudanum sometimes is distinctly successful in arresting a cold. But the other effects of opium make it not altogether a desirable remedy. Chloral hydrate is free from these objectionable effects; but both opium and chloral are dangerous drugs, and they cannot be pushed with safety. Bromide of potassium is, however, free from these objections; it is by far the safest nervine sedative which we possess. Professor Wood says: "No case of acute poisoning in man with the bromide of potassium has been reported, and I have never seen a single dose of it produce any obvious effect." A case is recorded in which an epileptic idiot took at a single dose no less than two ounces and a half of this salt. No drowsiness was produced, and the only apparent effect was that the fits, which until then had been very frequent, ceased immediately, and had not returned even ten weeks later. The distinctive physiological action of bromide is to depress the reflex activity of the central nervous system—precisely the action required in the treatment of catarrh; and its safety makes it possible to give the drug in such doses as shall produce a distinct physiological effect. The second indication is to reduce the local congestion and hyperæsthesia of the nasal mucous membrane. Relief may be given in this direction by simply closing the nostrils, or impeding the access of cold air by inserting a plug of cotton-wool. A correspondent of one of the medical journals is enthusiastic over the magical effects of a chamomile flower inserted into the nostril! Distinguished authorities in neurology have not disdained to turn their attention to this point. Dr. Ross tells of the relief he has himself experienced by painting the nasal mucous membrane with simple vaseline, and Dr. Ferrier has suggested the sniffling of a powder by which the locally sedative effects of morphine and bismuth are produced. The former method is simply protective, like the cotton-wool. Ferrier's powder is certainly of some curative value, but its application is extremely unpleasant in the results to clothing, when the moistened powder falls from the nose, a chalky cream. The indication can now be much more satisfactorily and scientifically met by the use of cocaine. This drug both causes local anæsthesia and diminishes local congestion; hence, it affords exactly what we require. I have found that the occasional painting of the mucous membrane, especially over the inferior turbinated bone, with a four-per-cent. solution of hydrochlorate of cocaine, by means of a camel's hair brush, gives instant relief, and on one occasion, at all events, this measure sufficed completely to arrest a cold without the aid of any other remedy whatever. The third indication is to arrest the flux if it have already commenced. Here again we are fortunate enough to possess a remedy which exactly fulfils the indication. The first obvious physiological action of belladonna is to produce dryness of the throat, due to suppression of the secretions of the salivary and mucous glands. This is exactly what we require in the treatment of catarrh, and several observers have pointed out the advantage of using this drug, but there does not seem to be a general recognition of the fact. And belladonna is a comparatively safe drug; not that it can be used with the freedom of bromide, but that it gives distinct indications long before the development of poisonous symptoms. The dryness of the throat is almost invariably the first effect, but dimness of near vision, dilatation of the pupil, and flushing of the face will be observed before any cerebral excitement will occur; and the poisonous properties of belladonna are much less dangerous than are those of opium, which depresses the respiratory centre. His plan of treatment for catarrh he describes as follows: I keep a strong solution of bromide (1 in 3) and a bottle of tincture of belladonna (P. B.). When I am conscious of having taken cold, I take two to three drachms of the bromide solution in a small glass of water—that is to say, forty to sixty grains of bromide. I repeat this dose in six hours, and, if necessary, take a third dose at a similar interval. Meanwhile, as soon as a flux commences, I take twenty drops (equivalent to fifteen minims) of the tincture of belladonna in a little water every hour or two until the throat feels somewhat dry. The painting of the nasal mucous membrane with cocaine solution gives great relief, and powerfully contributes to the cure if the catarrh be severe. Since I hit upon this plan I have never failed rapidly to arrest my own catarrhs, nor have I failed in any instance in which I have myself been able to superintend the administration of the remedies. The following case may serve to illustrate the good which may be effected even when it is not desirable to push the remedies decidedly. I was telegraphed for by the lady superintendent of the Highgate Convalescent Branch of the Hospital for Sick Children, of which I have the medical charge, to see a child who was dangerously ill. I found it to be a very rickety girl, aged four, with a highly deformed chest. A stream of catarrhal secretion was flowing from both nostrils, dyspnœa was marked, and the temperature was 101°. On examination of the chest I found good resonance everywhere, but an abundance of catarrhal râles. I ordered that the chest should be rubbed with turpentine linament, and that the child should take eight grains of bromide and ten minims of tincture of belladonna every four hours. Forty-six hours later I saw this little girl again, and the note I made was this: 'No nasal catarrh; no râles in chest; temperature normal; breathing easy; child seems quite well. Since my previous visit she had been sick once, which had no doubt aided in clearing the bronchial tubes, but the complete arrest of secretion was very remarkable. The great danger of acute bronchitis in rickety children with deformed chests being well known, it is not improbable that in this particular instance a life was really saved by the adoption of a neurotic treatment of catarrh.

A CASE OF CÆSAREAN SECTION.—Dr. E. Miller, M.D., of Florence, S. C., reports the following case in the *Atlanta Medical and Surgical Journal:* The subject of operation was a deformed and dwarfed mulatto, primipara, in her twentieth year, who had been confined to bed for fourteen years, during which period she had not been able to walk; she would probably have measured about four feet or four feet two inches. She had been the subject of double coxalgia, and both joints were anchylosed, giving rise to a pelvic deformity, by which the superior strait was contracted in its conjugate to perhaps two and a half inches. Both of the lower extremities were flexed upon the body, and the right one so much so that it rested obliquely upon the abdomen and indented it by pressure. They were much emaciated, were œdematous, and broken out with small sores and a scaly eruption; there was also a deep, ragged ulcer midway between the vulva and anus, which presented the characteristic marks of syphilis. The woman lived in poverty, and weighed but sixty pounds; she also presented in her legs some evidences of having been rickety in early childhood. When taken in labor under the care of Dr. Jarrot, of Florence, she in time was seized with convulsions, for which he gave her two grains of sulphate of morphia, which, not relieving her, he called upon me, and at my suggestion administered two more grains hypodermically, after which the convulsive movements ceased. I saw her for the first time on the morning of February 20, 1885, and found her breathing heavily. Her abdomen was tympanitic above the uterus, and there were no uterine contractions, these having ceased suddenly, giving rise to the belief that she may have ruptured her uterus. The os uteri was found of the size of a twenty-five cent piece, and the tissues relaxed; there was but little hemorrhage. We decided, under all the difficulties of the case, to deliver by Cæsarean section. At the time of the operation the woman had been more or less in labor for thirty hours, and twenty-two hours had passed since she had taken any morphia. She had a feeble pulse of 118, a respiration of twenty, and her extremities were cold; being unconscious, no anæsthetic was used. An incision six inches long was made in the median line, and nearer to the umbilicus than the symphysis pubis, the flexure and anchylosis of the lower extremities making this necessary. The distended intestines were with much difficulty kept back, and were punctured in several places with a hypodermic needle to evacuate the gas. The incision of the uterus led into a rupture of the lower part of the body and cervix, opening the organ to the extent of about eleven inches, six inches of which were by incision. Although laceration was believed to have taken place, it had not been positively located until cut into by the knife. After the uterus was opened the fœtus was seized by the left arm and delivered, and the cord cut and tied. The uterus, in its contractions, now presented under the eye the curious phenomenon of inversion, the right antero-lateral portion, to which the placenta was attached, being driven through the uterine wound with the disk firmly adherent. Although an effort was made to detach the placenta, it seemed only to become more firmly fixed as the convexity outward increased and the parts became consolidated by contraction. Finding the placenta immovable, I with my two thumbs placed on either side of the cord at its origin, and my fingers spread out over the back of the uterus to antagonize them, readily indented the protruding portion, which, being started, became restored by a spontaneous movement. The uterus now contracted normally, and the placenta was gradually separated, the mouths of blood-vessels being closed so perfectly that it was difficult to distinguish its former site. The uterine wound was closed by thirteen silk sutures, but a portion of the rent in the neck was not sewed up, it being inaccessible because of its position under the right thigh; after the organ had fully contracted, the laceration was not distinguishable. The patient lost but little blood from the operation, but when the abdomen was opened it was found to contain a considerable quantity mixed with amniotic fluid. The fœtus was not weighed, but was above the average size. After the uterine wound was closed, I cleansed the abdominal cavity thoroughly and closed the wound with ten sutures. When half had been passed, the patient exhibited very unfavorable symptoms, and ether was administered hypodermically; an order was given to place bottles of hot water around her, but, regardless of instructions given prior to the operation, they had not been provided. As the last abdominal sutures were being passed she died. There were no symptoms indicative of opium poisoning, but the shock and depression resulting from the rupture of the uterus (which was the main reason for the operation) were so great that we believed from the first that the chances for recovery were as ten to one against her.

Dr. Miller then says: I am indebted to Dr. Harris for the following interesting facts and observations: "Of the 136 Cæsarean cases in my note book, but one other died during the operation, which was performed in New York city in 1860 upon a patient nearing the maturity of gestation, but not in labor, who had been for six hours in convulsions. In no other American case is there a record of uterine inversion. This may be partly accounted for in your own by the extreme length of the uterine opening. As the organ had been a long time in a quiescent state and partly emptied, any slight traction upon the cord in removing the fœtus might indent the flaccid uterine wall and favor inversion if muscular contraction was at that moment revived. I do not remember to have seen any similar accident recorded of any foreign case. Your operation increases the list of American dwarf cases to twenty-seven and the deaths thereof to twenty; twelve children were delivered alive: the number of Cæsarean operations in the United States is upon the increase, but their proportionate mortality much more than keeps pace with the growth in number. From April 7, 1884, to April 20, 1885, there were eight operations, all fatal but the last, and all of the children perished; six of the cases were reported to me by letter. Of the 136 American cases, 58 have not yet been published, and but a very small fraction ever will be by their operators"

THE MANAGEMENT OF PLACENTA PRÆVIA.—Dr. Malcolm Mclean, in a paper on this subject in the *American Journal of Obstetrics*, says: In concluson I would offer the following rules as appearing to me best for our guidance in general, in dealing with placenta prævia. 1st. In any case avoid the application of all chemical styptics, which only clog the vagina with inert coagula, and do not prevent hemorrhage. At the very first, the patient should be put in a state of absolute rest—body and mind—and a mild opiate is often desirable at this stage to quiet irritation. 2d. Inasmuch as the dangers from *hemorrhage* are greater than all else to both mother and child, at the earliest moment preparations should be made to *induce* premature labor, and labor being once started, the case should be closely watched to its termination by the accoucheur. 3d. In primiparæ, and mothers with rigid tissues, the *vagina* should be well distended, by either the colpeurynter or tampon, as an adjuvant to the cervical dilatation. 4th. In the *majority* of cases generally, and in all cases, especially where there is reason to believe that rapid delivery may be required, it is more safe to rely upon the *thorough*, *continuous* hydrostatic pressure of a Barnes dilator than on pressure by the fœtal parts. 5th. Where the implantation is only lateral or partial, and where there is no object in hurrying the labor, bipolar version, drawing down a foot, and leaving one thigh to occlude and dilate the os, may be practised according to the method of Braxton Hicks, except in cases where the head presents well as the os, when, 6th, the membranes should be ruptured, the waters evacuated, and the head encouraged to engage in the cervico-vaginal canal. 7th. In the majority of cases, podalic version is to be preferred to application of the forceps within the os. 8th. In some cases, in the absence of sufficient, or the necessary instruments· the complete vaginal tampon, in part or wholly of cotton, may be applied and left *in situ* until (within a reasonable time) it is dislodged by uterine contractions and the voluntary efforts of the mother. In case of favorable presentation—occiput or breech—the tampon will not materially obstruct the descent of the child, and in some cases the tampon, placenta, and child will be expelled rapidly and safely without artificial assistance. 9th. The dangers of septicinfection by means of the tampon or India-rubber dilators are so slight, if properly used, as not to be considered as seriously impairing their great value. 10th. Whenever it is possible, dilatation and delivery ought to be *deliberately* accomplished, in order to avoid maternal lacerations. Finally. As cases of placenta prævia offer special dangers from post-partum hemorrhages, septicæmia, etc., the greatest care must be exercised in every detail of operation and nursing, to avoid conveying septic material to the system of the mother. *Absolute cleanliness, rather than chemical substitutes for that virtue*, should be our constant companion in the practice of the obstetric art.

A CASE OF EXTRAUTERINE PREGNANCY. DISCHARGE OF FETUS THROUGH THE POSTERIOR VAGINAL WALL. RECOVERY. (Dr. William T. Lusk in the *American Journal of Obstetrics.*) A. M., æt. 32, Bohemian, was admitted to ward 21 of the Bellevue Hospital, on the 25th of May, 1885. She had had three children, the last of which was born three years ago. She continued to work until six months previous to admission to Bellevue. From that time to the present, the pains at intervals were so severe that work became impossible. After the birth of her last child, menstruation recurred at two to three weeks' intervals, and lasted two to three days. During the month previous to her admission, a bloody discharge occurred two to three days in each week. On the day of admission, the hemorrhage was quite profuse. The patient was then seized with severe pains, attended with partial collapse. The first examination revealed a tense fluctuating tumor, occupying the cul-de-sac of Douglas, which pressed the uterus upward and forward. I saw the patient on the following day (May 26th), and pronounced the case one of fresh hæmatocele, with the blood still in a fluid condition. On the 30th of May I examined the tumor again. It had increased in size; it still fluctuated, and extended beyond the median line toward the left side. This condition led me to suspect extrauterine pregnancy, but on puncturing the tumor with Mundé's aspirating syringe, I withdrew a quantity of nearly pure blood, so that the original diagnosis was seemingly confirmed. The tumor, however, continued to increase in size. On the 15th of June, the cervix uteri was flattened against the symphysis, and the fundus was elevated upward toward the navel. The extension of the tumor to the left side was pronounced. On introducing the sound, the uterine cavity was found to measure three inches, and the uterus was freely movable. The distinct pulsations of the vessels in the vaginal walls, together with the previous history, now convinced me that I had to deal with an extrauterine pregnancy. A small quantity of fluid was again withdrawn with a hypodermic syringe. This time the fluid was perfectly clear, and, according to Dr. Biggs' report, contained no fibrin, a very small amount of albumin, a few leucocytes, and a considerable number of flat epithelial cells. From the negative appearances the fluid was regarded in all probability as amniotic. The faradic current was ordered on the 17th of June, to be employed twice daily, for five minutes each time, the positive pole being applied to the left side, and the negative pole to the surface of the tumor alternately through the vagina and the rectum. At this time I departed for Europe, and left the case in the care of Dr. Reginald Sayre. On June 19th the temperature rose to 102°, and the faradic current was discontinued. On the 20th the patient had a chill; temperture $102\frac{3}{5}$. Symptoms of mild inflammatory trouble continued until July 2d, when the axillary temperature sank to $95\frac{3}{5}$°, and the rectal temperature ranged between 96½ and 98°. With this fall the patient expressed herself as almost free from pain, and as feeling very comfortable. The pulse ranged from 90 to 120, but was very thin and compressible. A slight diarrhœa developed. The next day the temperature rose to $100\frac{3}{5}$°, and the diarrhœa became almost continuous. On the 8th of July, the diarrhœa had ceased, but the temperature rose to $103\frac{3}{5}$°. On the 9th the patient vomited, and the high temperature continued. On the 10th the temperature reached 104°. Owing to the feebleness of the pulse, stimulants were freely administered. From the 10th to the 15th inst., the temperature ranged between 100° and 102½°. On the 15th, the nurse observed a swelling projecting from the posterior vaginal wall. Dr. Sayre was summoned, and discovered an opening, through which protruded a fetal head. After enlarging the opening with his finger, he removed a fetus measuring seven and one-eighth inches in length, with about eight inches of cord attached. The fetus was partially decomposed, and the odor from the sac was extremely fetid. Dr. Sayre then inserted the half-hand into the sac, and removed the placenta piecemeal. The sac-walls were thick, and were everywhere smooth except at the placental attachment. No bleeding ensued upon the removal of the placenta. After the manipulations mentioned, the patient was extremely feeble. The pulse was 144, and the respirations were 58. Six hypodermic injections of whiskey were employed, together with a hypodermic containing Majendie's sol. morph. *m* iij.; ext. dig, fl., gtt. ij., and atropia, $\frac{1}{120}$gr. Owing to the feebleness of the patient no disinfectants were employed for several hours. From this time onward, Dr. Sayre combated the weakness of the heart with stimulants and digitalis. Many times the patient became so feeble that recovery seemed impossible, but with judicious care and watching the asthenic symptoms gradually disappeared, so that by the middle of September she was able to sit up, and by the 1st of October returned home cured. At the time of the application of the faradic current I believe the fetus was still living. The continued rapid growth of the tumor, and the marked pulsation of of the vaginal vessels exclude the theory that the fetus had perished. The introduction of the needle into the amniotic sac was probably the cause of the subsequent putridity of the fetus and the sac-contents. The final recovery of the patient was doubtless due to the good judgment of Dr. Sayre in the after-treatment. Disinfectant injections were employed daily, but were never pushed from theoretical grounds, when contra-indicated by the patient's condition. At times the patient was so feeble that stimulants had to be administered by a dropper, deglutition of any quantity of fluid at one time being impossible.

THE CURATIVE POTENCY OF PROLONGED SLEEP. (Dr. J. Leonard Corning, in the *N. Y. Med. Journal.*) Without anticipating, however, I will give a short description of the scheme of treatment by which I have sought to fulfil the physiological demands of cerebral rest. The essential features of the scheme in question are: (1) Cerebral rest (progressively prolonged sleep); (2) increased general and cerebral nutrition; (3) diminution of psychical irritation and sensory impressions, particularly those of light and sound. As a rule, I am in the habit of secluding the subject in a darkened room from ten to fifteen hours at a time, according to the amount of sleep which it is desired shall be had during the twenty-four hours. I do not, however, attempt great things in the way of sleep at first, but, on the contrary, the duration of the period of unconsciousness is progressively increased by the utilization of habit, hydrotherapy, appropriate food, and, in urgent cases, moderate medication. And just here let me remark that the enormous influence of habit on the periodicity and prolongation of sleep seems heretofore to have been but dimly apprehended. It seems, indeed, to be forgotten that sleep is capable of cultivation; and, accordingly, the most forced and unnatural drugging is usually resorted to when the function is deranged. When I speak of appropriate foods, I mean not alone such as are easily digested, but also such aliments as exert a demonstrable soporific effect. In this category belong the various hop preparations, salads in which lettuce is employed as the principal constituent, etc. It is impossible to overrate the importance of a carefully regulated diet in a system of treatment, the corner-stone of which is prolonged sleep; that is, sleep protracted far beyond what is common or necessary to the welfare of persons in ordinary mental health. The foods which are most suited to the nutritive requirements of those suffering from functional brain affections are the flesh of animals, or extracts of the same, eggs, milk, and unbolted cereals. As to sedatives and other forms of medication, I can only say that I avoid them as much as possible; indeed, I never attempt, by the reckless use of these substances, to produce that form of unconsciousness which has been called sleep, but which, after all, bears a far closer kinship to stupor than to physiological brain-rest. In a recent admirable article on "Wakefulness and its Treatment," Dr. Daniel Lewis has drawn attention to the great benefit to be derived from the use of sun-baths in the treatment of certain forms of wakefulness. Although I have no theory to offer concerning the physiological *modus operandi* of this mode of treatment, I am, nevertheless, fully convinced of the benefit to be derived from it as an accessory measure. As a matter of course, the amount of sleep required is not necessarily the same in all cases; but this axiom may be accepted as embodying substantially correct principles, to wit: the greater the amount of functional perversion, the greater the amount of unconscious rest required, and *vice versa.* The limited time at my disposal prevents my entering more explicitly into this scheme of treatment by cerebral rest; enough that it represents a therapeutical entity from which I have already obtained an amount of success in practice which has outstripped my most sanguine expectations.

PAINLESS OPERATION FOR PHIMOSIS.—Dr. W. Rounds Barnes, of Binghamton, N. Y., writes to the *Medical Record* that he performed circumcision upon a man forty-two years of age, after having previously applied a four per cent. solution of cocaine for twelve minutes to both surfaces of the prepuce along the proposed line of incision. The patient himself rendered good service in wiping away the blood, and in holding the mucous and cutaneous surfaces together while the sutures were inserted. The hemorrhage was very slight until sensation returned, which was not until the last suture was being put in. The patient remarked at that time that that was the first pain he had felt. The operation occupied thirteen minutes.

MICROSCOPY AND PATHOLOGY.

THE INFLAMMATORY PROCESS.

The Second of the Erasmus Wilson Lectures on Evolution in Pathology, Delivered at the Royal College of Surgeons, by J. Bland Sutton, F.R.C.S., Assistant Surgeon to the Middlesex Hospital, and Lecturer on Comparative Anatomy.

Inflammation, when viewed in the broadest possible light, may be defined as *the method by which an organism attempts to render inert noxious elements introduced from without or arising within it.* Noxious elements capable of bringing about the phenomena peculiar to inflammation may be denominated *irritants.* Some of them are very coarse, others are peculiarly subtle, often eluding detection. The objective signs of the inflammatory process are so well known that it is needless to repeat them. The redness and swelling, as Galen knew, are the result of increased afflux of blood and exudation of serum, but the determining cause of the afflux has taxed the ingenuity of pathologists. It remained for the ingenuity of Cohnheim to devise experiments whereby the process could be objectively studied under the microscope. From direct observations carried out on the tongue and web of the foot of a frog, the tail of a tadpole, fins of fish, and mesentery of a mammal, we have been informed of the large part played in the inflammatory process by the white corpuscles of the blood. These experiments teach us that in vertebrata the most important feature in the inflammatory process is the vascular disturbance. The next question which suggests itself is this: What are the causes which originate all this vascular disturbance? For the present let it be simply said it is the result of irritation. If we extend our observations to other animals, especially the invertebrata, in whom many of the phenomena of cell life may be studied with tolerable ease, we shall become quickly impressed with the important functions played by active motile cells.

So far as inflammation is concerned, there are three points to which it is necessary to draw attention. They are: 1. The capacity exhibited by certain cells of effecting a change of place and form. 2. Their power of taking into their interior various substances with which they may come in contact. 3. The property they possess of decomposing organic material when in their interior or in contact with their protoplasm; this is termed intra-cellular digestion.

The first of these, or the inherent property possessed in many instances by protoplasm of moving with a rapidity perceptible with the aid of a microscope, is an acknowledged fact in biology. These movements may be produced by stimuli. The discovery by Wharton Jones, in 1846, that the leucocytes of human blood possessed this property was a most important step. The capacity of the leucocytes to change their position forms one of the commonest of demonstrations in the physiological laboratory.

We must now consider the second statement—that of the power of ingestion. In 1862 Hæckel showed that when a tethys, a naked (shell-less) mollusk, is injected with indigo, the granules are taken up by the blood-corpuscles, and he further showed the occurrence of similar phenomena in the blood of various invertebrata. One of the most important results of these observations was the discovery that the cells of the blood of man and other vertebrates possess similar properties, and Cohnheim turned it to advantage in that it enabled him to demonstrate beyond question that the migratory cells seen in the cornea when inflamed are directly derived from the blood.

Having considered the peculiar property of cells, whereby they ingest foreign bodies, it becomes essential to inquire concerning the fate of the ingested material, for it is of the highest interest in connection with the process of inflammation. It has long been known that when an amœba takes into its interior a green-colored plant, and is kept under observation, it is found that the ingested material gradually breaks up, loses its green color, and finally disappears. The amœba is thus capable of taking food into its interior, and of making it part of itself, a process conveniently called nutrition, and is really the outcome of the process of digestion. When the process is carried on in a cell of this kind it is spoken of as intra-cellular digestion. Our knowledge of this process has been very largely extended by the researches of the eminent Russian biologist, Metschnikoff, who has done more than any other observer in this important and interesting line of inquiry. His investigations were first carried out on the sponges; later, he extended them to the hydroid polyps and hydro-medusæ. By using carmine he was able to watch its inception by the endoderm cells. In one case, that of Mesotomum ehrenbergii, the turbellarian refused to take the carmine; but Metschnikoff fed a nais with carmine, and induced mesostomum to eat the nais; examination showed the presence of carmine in the digestive cells of the turbellarian.

In 1880 Jeffrey Parker communicated to the Royal Society a paper on the "Histology of Hydra Fusca," which contains valuable evidence in support of intra-cellular digestion, and the paper is especially interesting in that it shows that the activity of the cells of the endoderm have not been sufficiently insisted upon, for in some cases by means of their pseudopodia the endoderm cells can actually obliterate the digestive case. He also shows that the endodermic cells carry on the process of digestion, for he found in their interior the partially disintegrated bodies of entomostraca. Soon afterwards Lankester, was able to show that, in the case of the fresh-water medusæ, which were discovered in the lily-house of the Botanical Gardens in 1880, inter-cellular digestion could be observed in these transparent forms. Interesting as these observations are, and valuable in that they prove the existence of intra-cellular digestion, yet it is necessary to detail the experiments by which Metschnikoff showed unquestionably that the wandering cells are capable of digesting organic substances Human blood-corpuscles taken up by the mesoderm cells of bipinnaria become completely absorbed. Milk-globules share the same fate, and when taken up by the wandering cells break up into small granules and diffuse themselves throughout the cell substance. The following experiment was devised to show that the cells do not ingest everything indiscriminately. On injecting into phyllirhöe living ova of a sea-urchin, it was found that neither young ovarian cells nor ripe ova which had extruded polar globules were eaten by the mesoderm cells; on the contrary, they seemed to live much longer than when placed in sea-water. Whilst in the tissues of phyllirhöe they could be fertilized, segmentation and a normal blastopore being produced. When spermatozoa of the sea-urchin were introduced they were quickly surrounded and eaten by the mesoderm cells. Observations on the necrotic organs of several invertebrates have shown that it is the function of mesoderm cells to devour the dying elements of such organs. If fluids containing bacteria be injected beneath the skin of bipinnaria and others, or if they develop spontaneously in the wounds of such animals, they will soon be found within the substance of many amœboid cells. In many cases the bacteria lose their motility and become so delicate as scarcely to be visible. In botryllus, Metschnikoff has found a spirochœte closely resembling the S. obermeyeri of relapsing fever and a small bacillus like the lepra bacillus. In both cases they were pursued, ingested, and absorbed by the mesoderm cells, some of which perished in the attempt and could be seen with long bacterial filaments projecting from them. The same process may be seen in the blood of vertebrates, where in bacterial affections such as anthrax the bacilli are taken up by the leucocytes.

We must now consider some examples of intra-cellular digestion in other than invertebrates. It has already been mentioned that this property of digestion possessed by cells is not merely used for nutritive purposes, but is also utilized for removing larval organs, and to protect the organism from harmful bodies. Before entering into details, it is necessary to refer to one other curious phenomenon presented by amœboid cells—namely, that of two or more cells fusing together so as to form a larger mass of protoplasm. Protoplasmic masses formed in this way are termed plasmodia. Metschnikoff has watched their formation, and regards them as equivalent to giant cells. In all cases in invertebrates they have arisen around foreign bodies, and always by fusion of separate cells. There is abundant good reason to believe that giant cells in the higher vertebrata, when they do occur, arise from the fusion of leucocytes. In 1870, Dr. Caton published in the *Journal of Anatomy and Physiology* a contribution to the theory of cell-migration, and, as he points out, this process may be said to have its probable maximum activity in the tadpole. He further tells us that in the month of April he observed the process to take place to such an extent that he had some doubts that it might not be a possible physiological occurrence. The following observations have an interesting bearing on this point. Metschnikoff has shown that in the early stages of absorption of the tails of larval bactrachians a large number of amœboid cells are present, within which are seen remnants of nerve fibres and fragments of muscle. These fragments of the tail are digested and absorbed by the amœboid cells, which are in reality leucocytes engaged in devouring the tail of the tadpole, and have been named in consequence "phagocytes." I have been able to follow the process in considerable detail by means of sections carried through the tail ot tadpoles in various stages, and can fully confirm the observations of Metschnikoff with regard to the devouring propensities of the leucocytes. There can be little doubt that not only the tail, but also the gills, are eaten up in this manner. Bacteria are evidently an old source of trouble in the world; they affect animals of all kinds, even water-fleas. Metschnikoff tells us of combats he has witnessed in the daphnia, between the white cells of the blood and bacteria, and how, when one cell was not sufficient to attack the invading bacterium, two or more would fuse together, surround, digest, and thus rid the daphnia of the intruder. Can these facts be applied to mammals? If the cornea ot a rabbit be irritated by nitrate of silver or a fine silk suture, the tissue becomes in a few hours red and hazy, due to escape of leucocytes from the vessels to repel, or if possible to destroy, the offending material. Draw a fine thread across the interior of a vein; leucocytes soon swarm around it. In tubercle, leprosy, perlsucht, or avian tuberculosis, the characteristic lesions swarm with bacilli. These minute organisms are often taken up by cells, and especially by giant cells, which in the two last mentioned affections crowd the affected area in great numbers. The consideration of these facts seems to indicate that in the giant cell we have the counterpart of the fusion of phagocytes, as in the case of the daphnia and other invertebrates, and it is in reality an effort of the blood-corpuscles to rid the tissues of noxious elements. The large multinuclear cells, osteoclasts, seen in bone undergoing absorption, must also be placed in the same category. These observations present the whole process of inflammation in an entirely new aspect, and, instead of being a purely pathological process, it will rank as one of normal physiology, which when in excess comes within the domain of pathology.

At the commencement of the lecture it was stated that bodies capable of originating the inflammatory process were recognized under the convenient term of "irritants." Inflammation may be of two kinds according to the nature of the irritant. It may be simple or specific. Simple inflammation is the reaction which follows mechanical, thermal, or chemical stimuli or irritation. A specific inflammation is one which results from the introduction into the organism of a particular poison or irritant, such as variola, glanders, tuberculosis, perlsucht, actinomycosis, and the like. That the effects of inflammation vary with the irritant no one can deny. Dirt on a child's hand produces warts; decaying animal matter will in some cases produce veruca necrogenica; soot, the soot warts, etc. No class of pathological productions illustrate the reaction of the organism to a specific virus so well as the peculiar group now known as the infective granulomata, which comprises tuberculosis, human, bovine, or avian; leprosy, syphilis, glanders, actinomycosis, etc. The histological characters of the morbid formations in each of these diseases are practically identical; a soft tissue made up almost entirely of round cells, very little intercellular substance, the presence of giant cells, and in most of them a bacillus or a fungus, is a constant feature. This infectiveness is very pronounced, for they may be transferred easily from one organism to another, and the "irritant" may be cultivated in artificial media. My observations, which have extended over the most important groups of the vertebrata, go to show that the mode by which a piece of noxious tissue is encapsuled or cast out of the body is only an illustration on a large scale of the process by which bacilli, bacteria, micrococci, etc., are in some cases rendered inert by the activity of cells. If, as in the case of the daphnia, the quantity of micro-organisms invading the body is large, and the vitality of the organisn enfeebled, the leucocytes are insufficient to cope with the invasion, and disastrous effects result.

If we summarise the story of inflammation as we read it zoologically, it should be likened to a battle. The leucocytes are the defending army; the roads and lines of communication, the blood-vessels. Every composite organism maintains a certain proportion of leucocytes as representing its standing army. When the body is invaded by bacilli, bacteria, or micrococci, chemical or other irritants, information of the aggression is telegraphed by means of the vaso-motor nerves, and leucocytes rush to the attack; reinforcements and recruits are quickly formed to increase the standing army, sometimes twenty, thirty, or more times the normal standard. In the conflict cells die and often are eaten up by their companions; frequently the slaughter is so great that the tissues become burdened by the dead bodies of the soldiers in the form of pus, the activity of the cell being testified by the fact that its protoplasm often contains bacilli, etc, in various stages of destruction. These dead cells, like the corpses of soldiers who fall in battle, later become hurtful to the organism they in their lifetime were anxious to protect from harm, for they serve as breeding grounds wherein the bacteria may germinate, and, like a pestilence and scourge, devastate the individual. The analogy may seem to many a little romantic, but it appears to me to be warranted by the facts which I have ventured to place before my audience.—*Lancet.*

DIABETES AND PERFORATING ULCER OF THE FOOT.

Any person who has met with even a few cases of perforating ulcer of the foot must have found difficulty in classifying them as to their origin and therefore in placing their treatment on an appropriate basis. Certain ulcers of the plantar surface are evidently coincident with and apparently the result of nervous lesions; others are as evidently not at all connected with nervous lesions. In an interesting article in the *Revue de Chirurgie*, Dr. M. Jeannel, Professor of Clinical Surgery in the School of Medicine of Toulouse, makes certain suggestions in connection with the *mal perforant*. In the first place he makes two distinct classes of the disease, a distinction not unrecognized by others : the false, which consists of inflammation and suppuration of the callosities or of the subjacent bursæ of the foot, and which are purely of local and traumatic origin ; the true, the seat of which is variable and in no necessary relation with the bursæ of the plantar surface ; whose gravity is great as compared with the benignity of the first form ; which recur with discouraging perseverance and are often accompanied by anæsthesia more or less extended, and which are in a word veritable trophic troubles. It is in these last that degenerative lesions of the nerves have been demonstrated, while in the first nothing of the sort can be found.

Arnozan* showed the frequency of perforating ulcers in toes previously frozen and where in consequence a primitive neuritis exists ; following traumatic sections of the sciatic nerve ; wounds or simple contusion of the spine; accompanying locomotor ataxia and more rarely with progressive muscular atrophy ; and he concluded that the perforating ulcer of the foot had in a great number of cases a nervous origin either central or peripheric. (Nicaise claims that while "the occurrence of a perforating ulcer is singularly favored by the previous existence of trophic disturbances of nervous origin, this affection is not met with unless a local compression intervenes.")

In the same way are explained the phenomena which sometimes precede the plantar ulceration, such as the shooting pains, the motor troubles, the lesions of the nails, and the erythemas, as well as the frequent recurrence of the disease which presents itself either in the cicatrix, at some other part of the foot or upon the stump, if amputation has been practiced. It is also true that a number of cases of *mal perforant* occur with shooting pains, motor and sensitive troubles, lesions of the nails, and erythemas, without antecedent frost-bites or section of the sciatic, without wound or disease of the spine of any sort. Something further remains then to be done in fixing upon the cause of these apparently spontaneous cases.

Dr. Jeannel has had an opportunity of treating two cases of perforating ulcer in individuals in whom none of the above-named nervous troubles were present but who were the subjects of well-marked saccharine diabetes. He has also watched a third case in the practice of one of his colleagues in which were five ulcers on the left foot with a spontaneous amputation of the toes ; in which case there was no spontaneous or traumatic lesion of the medulla, but sugar was present in the urine. Dr. Jeannel naturally inquires if the relationship of cause and effect is possible between diabetes and perforating ulcer. As to the possibility of such a relation of cause and effect he thinks it incontestible, admitting on the one hand that true *mal perforant* is a trophic trouble recognizing as cause a series of known or unknown central (or peripheric) nervous affections, which seems to be absolutely demonstrated; and admitting on the other hand that diabetes is itself a nervous affection.

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*Des Lesions trophiques consécutives aux maladies des systeme nerveux. Paris, 1880.

The last factor of the problem is to-day only a strong presumption, since the encephalic anatomo-pathologic lesion is only rarely demonstrable, but one must take account of the fact that in physiological experiments it is possible by the lesion of a determined point of the nervous centre to produce glycosuria, and on the other hand nervous accidents occur in diabetes. As a central nervous lesion diabetes may engender trophic lesions and it does give rise to many. What, in effect, are carbuncles, furunculous and ecthymatous outbreaks, gangrene, diabetic ulcers, cataract, and the spontaneous amputation of the toes already referred to, if not veritable trophic troubles? These same lesions are so characterized when they are observed in connection with known medullary lesions; why refuse them the same quality when they are observed in connection with diabetes?

In recapitulation, Dr. Jeannel thus states his case: On the one side *mal perforant* is a trophic trouble observed in many central nervous affections, sometimes alone, more often accompanied by other lesions of the same group; on the other side it is very probable that diabetes is a central nervous affection; it is certainly a general dystrophy; and lastly, one observes in diabetics cases of *mal perforant* alone or accompanied by well characterized trophic lesion. Observation must finally settle the relationship and resolve at least in part the double question, the etiology of *mal perforant* and the nature of diabetes. Dr. Jeannel quotes four cases besides his own, and mentions some references to the same possible connection by other writers. It is evident that the connection is by no means established; if it exists and is at all common it must often have been overlooked; but the article in question will stimulate others to watch more carefully for the possible constitutional condition behind the local lesion of *mal perforant.—Boston Med. & Surg. Journal.*

BIOGRAPHY.

AUSTIN FLINT, M.D., LL.D.

The entire medical profession of this country and Europe has been inexpressibly shocked by the sudden death of Dr. Austin Flint, Sr., which occurred at his residence, in this city, on March 13, 1886, of cerebral apoplexy. The attack came on at midnight on the 12th, and there was complete unconsciousness until the fatal issue, fourteen hours afterward. Drs. Austin Flint, Jr., Isaac E. Taylor, E. G. Janeway, and W. T Lusk, were in attendance.

For forty years Dr. Flint has stood in the front rank of his profession. He came of a family that had made a name in medicine in Massachusetts from the earliest settlement of that part of the country. His ancestor, Thomas Flint, of Matlock,, Derbyshire, England, settled at Concord in 1638. Edward Flint, the great-grandfather of Dr. Flint, was a physician of note in the Massachusetts colony in the early part of the last century, and his grandfather practiced medicine at Liecester, Mass., longer than most men live, dying there when past 90, in 1850. He had thrown aside the profession to enter the ranks of the Revolutionary army, but before the Revolution ended his services were demanded as a surgeon. Dr. Flint's father, Joseph Henshaw Flint, was also a surgeon who was known far beyond the territory in which he practiced. He lived at Northampton and afterward at Springfield.

Dr. Austin Flint was born at Petersham, Mass., on October 20, 1812. His collegiate studies at Amherst and Harvard were followed by a full course in the Harvard Medical College, from which he was graduated in 1833. From the beginning of his career he made himself known, both by his success as a practitioner and by his contributions to current medical literature. The first three years of his professional life were passed at Northampton and Boston. In 1836 he went to Buffalo, where he remained until 1844, his prominence at that time securing him a call to the chair of Institutes and Practice of Medicine at the Rush Medical College, Chiçago. After a year spent in this position he returned to Buffalo, where he established the *Buffalo Medical Journal*, in 1846, which he conducted for ten years. Meanwhile he was increasing his usefulness in various directions. He was one of the founders, with Professor Frank H. Hamilton and the late Professor White, in 1847, of the Buffalo Medical College, at which, until 1852, he occupied the chair of the Principles and Practice of Medicine. Then he went to the Louisville University, holding the same chair in that institution, where he remained until 1856, when he went back to Buffalo as Professor of Pathology and Clinical Medicine. While still holding a residence at Buffalo he passed the winters of 1858, 1859, and 1860 at New Orleans, where he was Professor of Clinical Medicine and visiting physician to the Charity Hospital. He changed his home toward the close of this engagement to this city, where he has since remained. In 1861 he became one of the Physicians to Bellevue Hospital and was appointed to two Professorships—the Principles and Practice of Medicine and Clinical Medicine at Bellevue, and Pathology and Practical Medicine at the Long Island College Hospital. He remained always with the Bellevue Faculty, but his duties forced him to sever his connection with the Brooklyn college in 1868. In 1872 he was elected President of the New York Academy of Medicine. His connection with medical and scientific organizations was widespread, including most of the leading medical societies, and he was an honorary member of many similar European societies. In 1884 he was President of the American Medical Association, and in the same year he was one of the founders of the New York State and County Medical Associations.

As an author, Dr. Flint early took the highest rank. His "Treatise Upon the Principles and Practice of Medicine," published in 1866, has run through five editions. Dr. Flint was engaged during the past winter in revision work for another edition. The sales of this book have been phenomenally large, reaching nearly 40,000 copies. A work on "Clinical Study on Heart Sounds in Health and Disease," which he wrote in 1852, received the first prizes of the American Medical Association in 1852 and 1859. His "Manual of Percussion and Auscultation," which has gone through many editions, has had an enormous sale, and his "Phthisis" and other works have also long been regarded as standard publications. In 1876 he was a delegate in the International Medical Congress at Philadelphia, where he delivered the address on "Medicine," a most masterly effort of its kind. He attended the Congress at London in 1881, and at Copenhagen in 1884, and had been chosen President of the next Congress, to be held at Washington in 1887. During the winter he was accorded the honor, never before received by an American physican, of an invitation to deliver the Address on Medicine before the British Medical Association at its coming meeting. The invitation had been accepted, and he intended to go to Europe, in July, for the purpose.

At the time of his death, Dr. Flint was in the full possession of his splendid powers, and was fully occupied with his hospital, college, consulting, and literary work up to the very last. He had a dread of a lingering illness, and a wish that he might be taken suddenly when his time came was often expressed by him. He had no family except his wife, whom he married in 1835, and his son, who has, however, a number of children.

The funeral was held on Tuesday, March 16, at Christ Church, in which was gathered an immense number of physicians, including all the most noted men of the profession in New York, as well as a number from various other cities. The services were very simple, and there were no pall-bearers. The interment was in Forest Hill Cemetery, Boston.

At a meeting of the Faculty of the Bellevue Hospital Medical College held March 15, 1886, on motion it was resolved:

That this Faculty keenly sympathizes with the wife, son, and family of our lamented *confrère*, Professor Austin Flint, in their irreparable loss of a tenderly devoted husband, father, and counsellor:

Yet that in their grief they will find consolation in that they can ever cherish the memory of his spotless life, his greatness and his goodness:

That the son, grandson, and great-grandson of eminent physicians and surgeons, entrusted by nature with medical skill and sagacity, so nobly fulfilled his mission;

That his powers of thought and action were preserved in their fulness of vigor to the close of his intellectual and benevolent career:

That his prayer was granted in being spared from lingering illness:

That as he had mitigated the sufferings of others he himself was saved from suffering:

That after a day and evening of arduous medical duties he retired to his painless couch of death—

> "God's finger touched him and he slept."

Resolved, That this Faculty has been deprived in this dispensation of Providence of one of the most illustrious founders of this college, whose professors felt honored by having their names enrolled with his:

One through whose instrumentality other medical colleges have been established in our country.

One whose pupils fill chairs in our Faculty, while others hold distinguished positions in similar institutions of medical instruction ;

One whose self-sacrificing and gratuitous services have been cheerfully rendered to the sufferers in Bellevue Hospital and other hospitals in our city and country for the last half century.

Resolved, That our city and the world has lost in his death one whose noble presence and tender sympathies in the sick-room cheered the heart and secured the confidence of the afflicted;

Whose remarkable record is justly the pride of any profession in any land ;

Whose gifts and labors were recognized at home and abroad ;

Who was honored with positions of distinction in America and Europe rarely won ;

From whose eloquent lips thousands of students in many colleges have been taught the science of medicine, and by whose graphic pen tens of thousands have gained medical knowledge, and whose numerous and valued works translated into many tongues will continue as fountains of instruction to future generations.

Resolved, That, while our heads bow in grief at his sudden death, our hearts rise in gratitude to God for his prolonged life of widely extended usefulness.

Resolved, That a copy of these resolutions be engrossed and transmitted to his family, and that they be given for publication to the medical and secular journals of this city.

At a special meeting of the Executive Committee of the New York County Medical Association, held March 14, 1886, the following was unanimously adopted :

Whereas, it has pleased God to remove from our Association our beloved and highly honored friend, Professor Austin Flint, M.D., LL.D., one of our founders, and an ever-willing co-worker: We desire to record the great appreciation of our loss.

Professor Flint, from early manhood, has ever been an indefatigable laborer in the field of medical science, and for a half century has been one of the most accomplished teachers and writers in the profession.

His varied experience, extending over different portions of our country, enabled him, on his settling in New York City, at once to take the foremost place in the profession. As a consultant he was without a peer ; his calm judgment, urbane manners, and strict conscientiousness made his presence ever welcome to his brethren. As a gentleman he will be held in grateful remembrance by all with whom he came in contact ; his charities were proverbial.

His death will be the cause of universal sorrow, especially occurring at a time when his deliberate counsels are most needed. We can never forget that genial countenance, those cheerful words, and that buoyant disposition, which, amid the greatest of sorrows, always pointed out the ray of light affording hope.

S. O. VANDERPOEL, M.D., LL.D.

Dr. S. Oakley Vanderpoel, of New York, died March 12, at the Arlington Hotel, Washington, where he had stopped for a week on his way South. He came of a distinguished family, and was born February 22, 1824, at Kinderhook, Columbia County, N. Y., where his father, who was also a physician, carried on an extensive practice. He was graduated from the Jefferson Medical College, Philadelphia, in 1845, and in 1847 he went to Europe, where he remained till 1850, when he returned to this country and settled in Albany. He was appointed by Governor King Surgeon-General of the State in 1857, and was appointed again to the same position by Governor Morgan in 1861, when the duties of the office were extremely onerous and exacting. He served in this capacity with distinguished ability throughout the war, winning the public thanks of the Governor and the Legislature, and then once more returned to private practice. In 1860 he was chosen President of the Albany County Medical Society; in 1867 Professor of General Pathology and Clinical Medicine in the Albany Medical College; and, in 1870, President of the New York State Medical Society. From 1872 to 1880 he filled the position of Health Officer of the Port of New York in the most admirable manner, during which time he lectured on hygiene at the College of Physicians and Surgeons, New York, and (in 1876) was appointed to the chair of Theory and Practice in the Albany Medical College. After his term as Health Officer, he returned to Albany for a year, but in 1881 came back to New York and engaged in private practice. In 1883 he was appointed Professor of Public Hygiene in the Medical Department of the University of the City of New York, and in 1884 received the degree of LL.D. from that institution. Dr. Vanderpoel was for a long time prominent in the directorate of the St. Nicholas Society, at whose gatherings his genial presenee was always most highly esteemed. Personally he was a man of great force of character, and his warm heart and kindly disposition won him hosts of staunch and devoted friends. Of his three sons two are practicing physicians in New York.

The funeral services of Dr. Vanderpoel were held at his late residence in 39th Street on the afternoon of March 15, and were largely attended by the profession. Among the pallbearers were Drs. Alfred L. Loomis, C. R. Agnew. John C. Dalton, Fordyce Barker, C. F. Chandler, D. B. St. John Roosa, and Albert Vander Veer, of Albany. On the morning of the funeral a special meeting of the Charity Organization Society, for the formulating of whose constitution Dr. Vanderpoel was one of the citizens selected by the State Board of Charities, was held for the purpose of taking action in regard to his death.

PROFESSOR JOSEPH A. EVE.

The demise of this eminent physician and philanthropist demands a more extended notice than our space at this time permits. The Medical Association of Georgia will doubtless soon pay fitting tribute to the memory of one of the most distinguished and best beloved of its former presiding officers. In advance of a more extended biographical sketch, which it is hoped will speedily appear, it is proper to remind the profession that for more than fifty years Dr. Eve has filled a most prominent place in their ranks.

In 1828, when he began his career in Augusta, Georgia, there was in the United States but one medical college south of Philadelphia. Thoroughly trained physicians and surgeons were comparatively scarce, and the obstacles and expense of obtaining a medical education so great that young men of suitable qualifications were deterred from engaging in that pursuit. Recognizing the public need of such an institution, the physicians of Augusta, with competent legal authority and liberal legislative pecuniary aid, founded the Medical College of Georgia.

Dr. Eve was chosen as one of the faculty upon its organization, and his name held a place upon the list for more than half a century. Of his early colleagues, several of whom are renowned in professional annals, all passed over the river before him, and left him a solitary, but most distinguished and venerated, object of contemplation.

To his skill and fidelity as a teacher of the departments of the pan-science of medicine assigned him, thousands of his pupils, scattered all over the South and West, bear willing testimony. Two generations of the population of Augusta attest with universal acclaim his patience, integrity, tact, and success as a general practitioner. All men and women, of all pursuits and conditions of society, award to him the crown as a hero of benevolence. If any modern man could, Dr. Eve might contest with St. Luke the proud title of nobility, "The Beloved Physician."

During the last few months of his life, Dr. Eve was engaged in the preparation of a series of articles embodying the result of his long study and observation in the departments of obstetrics and gynæcology. This paper, the first of a series, has been for some time in our hands for publication, and the notes of others are now ready and have fortunately received the proper correction and approval.

Dr. Allen, who was for many years associated with Dr. Eve in practice, and who is therefore familiar with his views and methods, intends to carry out the original design, and to do this will draw largely from lectures in his possession, in which Dr. Eve's experience on the subjects treated of is fully recorded.

While these papers may be of some value to the profession generally, they will without doubt be of special interest to Southern practitioners, many of whom Dr. Eve was proud to rank among his pupils and to whom this will be his last and final teaching.—*Atlanta Medical and Surgical Journal.*

DR. WILLIAM E. JOHNSTON.

This well-known American physician died at his residence in Paris on the 14th of February, of a chronic affection of the stomach, in the sixty-second year of his age. Dr. Johnston was a native of the Southern States, and it was after the civil war that he came over to Europe and started as a newspaper correspondent, in which capacity he greatly distinguished himself. With his American degree he obtained permission in 1866 from the French Government to practice medicine in Paris, where he acquired great popularity and fame, not only among his countrymen, but also among the French and foreign residents of this city. He was of a handsome physique, and it is said that he bore a striking resemblance to Albert Sidney Johnston, the celebrated Southern general, who was a cousin of Dr. Johnston's father. He was officially attached to the American Legation in Paris, and always proved himself a wise counsellor on all matters coming within the scope of his profession. He rendered great service to the sick and wounded during the siege of Paris, when he was attached to an ambulance, and continued therewith to the end of the Commune, which followed the siege. In recognition of his services he was created Chevalier of the Legion of Honor, and in 1876, for further services, he was raised to the rank of Officer of the same order. He was also Officer of the Crown of Prussia. The funeral service took place at the American Church, in the midst of a large concourse of friends, the American Legation being officially represented. The remains of the lamented physician were afterwards deposited in a vaulted chamber in the church, to await removal to the United States.—*Paris Correspondence of the Lancet.*

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK COUNTY MEDICAL SOCIETY,

March 8, 1886.

THE ETIOLOGY OF RABIES AND THE METHOD OF M. PASTEUR FOR ITS PREVENTION.

DR. HERMANN M. BIGGS, Instructor in the Carnegie Laboratory, read the following paper, which has just been published in the *New York Medical Journal:*

The etiology of rabies and the investigations of the cause or causes of the disease and of the conditions which predispose to its development or act directly in its production form subjects of inquiry of the greatest importance. Upon the solution of these questions depends largely the determination of the methods to be sought for in the prevention of this disease, which is perhaps the most terrible one to which the human or animal organism is subject. Much study has been given to these questions, and among the writers who have made investigations in this direction may be found many of the most distinguished veterinarians of every generation. These investigations, however, have resulted only in the presentation of many hypotheses as to the nature and character of these causes. They have not established a single condition or circumstance which can bring about or predispose to the development of the disease, excepting only the contagious principle as transmitted from rabid animals. The origin of the malady in the canine and feline species is, in many instances, involved in the greatest obscurity, and, being unable to account for these cases upon any other supposition, many observers have believed in the occasional spontaneous origin of the disease. Fleming, the ablest of the recent English writers on this subject, says: "And rabies, we feel we are justified in asserting, must also be included in the list of diseases with glanders, anthrax, typhus in pigs, and the distemper in dogs, which, generated under certain favorable conditions, during their course develop a virus that, like a ferment, acts as a leaven in producing morbid and characteristic changes when it obtains admission to the previously healthy body, and there are few nowadays who are not convinced that it will occasionally appear in a spontaneous manner and without any exciting cause."

The most potent arguments which have been brought forward as proving the spontaneous development of rabies are: 1. The appearance of the disease in an epizootic form in countries where it has been previously unknown and where its appearance could not be traced back to any foreign source. The epidemic of the disease in Peru, in 1803, may be cited as an instance of this kind. 2. It is urged that the appearance of the disease in an epizootic form in some countries at rare intervals can also only be explained in a satisfactory manner on this hypothesis. It has been observed, not infrequently, that, in certain countries which have been free from the disease for long periods of time, suddenly it appears in almost an epidemic form, and, after a short time, becomes again apparently extinct. Dr. Roucher, as quoted by Fleming, refers to the appearance of the malady in Algeria as confirmatory, to some extent, of its spontaneous origin. The marked intermittence in its manifestation at different geographical centres; the multiplicity of cases at certain epochs of very short duration, contrasting strikingly with their rarity at other times; the intervals between the outbreaks, which are longer than the period of incubation of the virus; the small number of cases as compared with the crowds of wandering dogs; the difficulty of explaining the maintenance of the disease in every region after long interruptions—all this would lead to the supposition that inoculation is not the sole cause in Algeria.

But whatever disagreement there may have been among writers as to the spontaneous origin of rabies, there has always been the greatest unanimity as to its contagious nature. This important fact has been universally recognized by the most competent medical writers from the very earliest times. But more recently, we may say, it has been almost fully established that this contagious principle, whatever may be its nature, is the only "evident, efficient, and incontestible cause" in the production of this malady. The occasional spontaneous development of the disease in certain of the carnivora, as advocated by many veterinarians, must be entirely rejected, in view of the facts recently demonstrated with relation to the germ diseases, and we must accept absolutely the conclusion that "this disease is maintained and spread solely by its contagious principle, and that there are no other causes in operation."

The facts adduced by Roucher, Fleming, Tardieu, Bouley, and others, to prove the spontaneous appearance of the disease, may be readily and rationally explained on the ground of its purely contagious nature, and the arguments brought forward to sustain the former view may be easily refuted. It is a matter of the greatest importance that those fallacious ideas should be corrected which are so prevalent among the laity, and to no small extent among the profession, in regard to the influence of climate, season, hunger, thirst, food, pain, anger, an unsatisfied sexual desire, and the thousand other causes that have at one time or another been adduced as predisposing to or producing the disease in dogs. There are no better or more reasonable grounds for believing that any one or all of these influences combined can bring about the development of a single case of rabies than that unfavorable sanitary conditions can produce small-pox when the specific contagium vivum of the disease is not present. So strong has been the popular belief in the effects of the season in the production of rabies, that not even the testimony of indisputable facts has been potent enough to dispel it. It has been almost a universal belief since the earliest times that the canine species are more susceptible and liable to an attack of this malady during the hot weather than at other seasons of the year, and for certain periods during the summer and autumn months many precautions have been taken to protect man against the possible dangers arising from this cause. During the period we find that in many cities there are municipal ordinances requiring that all dogs at large in the streets shall be provided with muzzles, while during the remainder of the year they are left free. The danger from the possible development of the disease has been supposed to be proportionate to the intensity of the heat. This supposition has been maintained in spite of the fact that it has been shown in the most unmistakable manner, by large masses of statistics collected with the greatest care in France and Germany, that the disease is not more prevalent in the summer months than at other seasons of the year, and that if there is any preponderance of cases in any season, it is rather in the winter and spring than in the summer. Indeed, Dr. Röll, of the Vienna Veterinary Institute, asserts that the disease is more frequent in mild than in hot summers, and that the only exceptions have been when the seasons were irregular or variable.

It has also been a popular superstition that the bite of an angry dog, or of one in rut, or of some other enraged animal, was likely to be followed by rabies. Fleming reports two cases mentioned by the Abbé Rozier, where hydrophobia was supposed to have followed bites of this kind. In the first case a man had bitten himself in a fit of rage, and in a second a soldier was bitten by his comrade. Dr. Camille Gros, as quoted by Fleming, records a case that occurred in the clinic of M. Tardieu which has been cited as proving the same fact. "An individual was bitten by an angry but not rabid dog. The wound healed in ten days. Afterward the subject became ill, symptoms of hydrophobia manifested themselves, he was brought to the hospital, and died in four days; at the autopsy the lesions present in hydrophobic patients were found. The premonitory symptoms and the progress and duration of the malady were the same as with them. From this fact this author supposed that the bite of an irritated dog or one in rut might become momentarily virulent and cause rabies." However, this supposition is utterly untenable, and certainly nothing can be more erroneous or terrifying than the idea that the bite of a healthy dog may, under certain conditions, be followed by rabies. A wound or injury produced by the teeth of a non rabid dog—one whose saliva does not contain the living organism, whatever may be its nature, which is the cause of rabies—can no more bring about the production of the specific disease which we call rabies than can the wound made by a sterilized knife.

This, with all other supposed causes, must be absolutely rejected. It must be admitted that there is only one evident and efficient cause for the disease—a contagium vivum—as to the nature or character of which we have at present no absolute knowledge, excepting that it must be a living matter capable of reproduction and multiplication when transferred to the living organism, and of there producing a specific disease manifested by varying symptoms in the different species of animals affected, and its presence or virulence can only be determined by the results produced when introduced into the blood of previously healthy animals. That it is exceedingly minute is proved by the difficulty experienced in its demonstration, and that it is a micro-organism belonging to the schizomycetes is rendered probable by the similarity of the disease to other communicable diseases known to be due to pathogenic micro-organisms of this class. Indeed, Dr. Herman Fol, of Geneva, in a recent communication to the French Academy, professes to have discovered the specific micro-organism of the disease—to have been able to demonstrate it in the neuroglia of the central nervous system—to have succeeded in cultivating it in appropriate cultivation media, and to have produced rabies in rabbits by inoculations with pure cultivations of this germ. In this communication he describes the material points in the results obtained in his experiments and the methods employed as follows. He says: "Like our predecessors, we have tried in vain to obtain a staining of some special organism in the cords from rabid animals by the ordinary methods, but finally by the adoption of one method we have been able to reveal the existence of certain elements which are not present in healthy spinal marrows. This result was attained by the use of the method of hardening and coloring devised by Ehrlich and Weigert, and by making an absolute rule to examine only perfectly satisfactory sections whose thickness did not exceed 1-200 of a millimetre.

"The marrows should be immersed immediately after death in a solution composed of 2.5 grm. of bichromate of potassium and 1 grm. of sulphate of copper to 100 grm. of water. The sulphate of copper is important for the subsequent staining, and also because of its antiseptic properties, which guarantee that no new organism gain access to the section during the process of hardening. The cord is afterward divided into short sections, so that they can be immersed in Weigert's hæmatoxylin solution; they are then passed into absolute alcohol and oil, imbedded in paraffin, and a series of fine microscopical sections is made. These are then passed into Mayer's fluid, decolorized in ferrocyanide of potassium, and mounted in Canada balsam. Similar pictures may be obtained, but less clearly defined, by subjecting the small sections of the cords to the vapor of osmic acid, and decolorizing in a solution of oxalic acid before imbedding.

"If these preparations have been decolorized with care, there may be seen in them groups of small globules similar to micrococci. These are situated sometimes in the lamella of the neuroglia, more rarely in the space in the cylinders between the portion stained deep blue and the sheath of Schwann, which is only tinted yellow. Sometimes these groups are found in the small cavities, which have a diameter less than that of the myelin fibres, the histological nature of which is not as yet understood. These granules are perfectly spherical, clearly defined, and stained a deep violet color. They are arranged in a definite order, and do not form chaplets. They are found in the form of a figure of eight (8), which indicates multiplication by division. Their diameter is about 0.2 of a micro-millimetre.

"If an appropriate cultivation medium is inoculated with a rabid brain, a development occurs, accompanied by a slight cloudiness, which settles to the bottom on the fourth day. This deposit, when used for the inoculation of sound animals, produces in some instances a rabies which is very characteristic, excepting that the duration of the incubation period is much more prolonged than that following the employment of the virus which served for the original inoculation."

As a cultivation medium, a brain broth was used, usually that from sheep, as fresh as possible, and triturated with a little sterilized water and carbonate of potassium. The liquid, filtered at first through paper, is then passed through a Chamberland filter, and after this remains perfectly clear if all the operations have been carried on with sufficient care.

The method of trephining is not used, as being too complicated. The virulent liquid is injected by a pointed cannula carried along the conjunctiva to the bottom of the orbit, which is then made to pierce the lamella of bone which separates the base of the brain from the orbit. This method, according to Fol, has succeeded well, and is easy of application.

If a portion of the deposit which the cultivations present after four days is placed on a cover-glass, dried, and treated with the hardening solution, composed of bichromate of potassium and sulphate of copper, and is then colored and decolorized in the same manner as the sections of the cords, the same groups of micrococci are presented, and they have the same deep violet color. Rabies did not follow inoculations with cultivations more than six days old. He says: "It would be interesting to know whether this depends upon an attenuation of the virus, and whether the inoculated animals thus become refractory to rabies."

Pasteur had before described the presence of certain granules in rabid marrows; but Fol says: "In the want of precise descriptions, it is not possible for us to decide whether they are identical with the microbe which we have succeeded in coloring and cultivating. And as for the brilliant granules described by M. Gibier, they appear to be much larger than the microbe, which is not visible with a magnifying power of five hundred or six hundred diameters."

These statements of Fol were not favorably regarded in Pasteur's laboratory, on the grounds, first, that the methods which he describes as used for the cultivation of the germ have been repeatedly employed by M. Roux, Pasteur's first assistant, without any result; second, that he describes the germ found by him as being aërobic, while, from the nature of rabies and the presence of the contagium vivum in the nervous system, it seems far more probable that it is an anaërobic or facultative anaërobic germ; and, third, because he has only produced rabies in rabbits, in which the disease manifests itself by no characteristic symptoms, as is the case in dogs, and in which rabies may be easily confounded with the various forms of septicæmia.

The studies of M. Pasteur upon rabies up to the time of the meeting of the International Medical Congress in 1884 are well known, through numerous previous communications to the French Academy. It is scarcely necessary or possible to consider these communications in this short paper, as they in large part report observations which have no important bearing on the present question, and present lines of investigation quite different from that described in his last report. However, it is but fair to state that some of the conclusions arrived at in his earlier work on rabies have not been confirmed either by his own later investigations or those of other observers and are in some respects opposed to the results recently reported. It must be admitted also that, unfortunately, in his last communication, as in some of his other more recent communications upon rabies, he has not discussed the questions so much in detail as could be desired, nor has he given definitely the number or character of the experiments upon which his conclusions and the general principles drawn from them are based. The failure to do this will render it impossible for any other investigator to repeat or confirm his experiments, and without such confirmation from a thoroughly reliable source there will of necessity be much reserve among scientific men about the acceptance of such important and far-reaching principles as are involved in his method for the prevention of rabies.

It may not be uninteresting here to first recall briefly the former method of Pasteur for rendering dogs refractory to the disease, as presented in his communication to the French Academy on May 20, 1884. This first method was, briefly, as follows: The rabic virus obtained from the spinal cord of a rabid dog was first attenuated by passing it through a series of monkeys, and then, as the virulence is increased again by its transmission through rabbits, it was graded up to the desired degree of virulence by the subsequent inoculation with it of one or more rabbits. In rendering dogs refractory to rabies they were first inoculated with a virus obtained from the *first* of the *rabbits* inoculated from the *last* of the series of *monkeys*. At the same time with the inoculation of the dog a *second* rabbit is inoculated. The dog receives his *second* inoculation from the virus obtained from the *second* rabbit, and at the same time a *third* rabbit is inoculated with this same material. The *third* and last inoculation of the dog is made with the virus obtained from the *third* rabbit. "At this time," Pasteur says, "the dog has been rendered entirely refractory to rabies." In this same communication, in 1884, he says: "I believe I can surely bring about a refractory state in the human being before the mortal disease appears in consequence of a bite."

In the introduction to his last communication upon rabies, referring to this former method, he says: "The prevention of rabies, as I have described in previous notes in my own name and the names of my collaborators, certainly constitutes a real advance in the study of this malady—an advance, however, which is more scientific than practical. Its application was dangerous. Among twenty dogs that had been thus treated, I could not affirm that more than fifteen or sixteen had been rendered refractory to rabies. It was expedient also to complete the treatment by the inoculation with an exceedingly virulent virus for control, in order to confirm and strengthen the refractory condition. Finally, prudence dictates that the dogs be kept under observation for a longer time than the period of incubation of the disease produced by the direct inoculation with the last virus, and thus an interval of not less than three or four months was required to afford perfect assurance of a fully refractory condition.

It was therefore necessary to obtain, if possible, a more rapid method, and one giving absolute security to dogs. After almost innumerable experiments, I obtained a preventive method, practical and prompt, with which sufficiently numerous and assured successes have already been obtained upon dogs to give me confidence in its general applicability to all animals and to man himself."

This method, as gathered from Pasteur's communication and from his assistants while in the laboratory. rests essentially upon the following observations:

In the human being or in animals dead of rabies, the rabic virus is present in great abundance and in a pure form in the central nervous system, and especially in the medulla oblongata and spinal cord. This observation is not wholly original, but is in confirmation of the experiments made by Rossi and Hertwig, who succeeded in producing rabies in healthy dogs by inoculations with portions of nerves obtained from animals dead of rabies. Pasteur found that animals inoculated with portions of the medulla or spinal cord obtained from animals dead of rabies, and then brought into suspension in a sterilized bouillon, developed the disease with greater certainty than when inoculated with the saliva of rabid dogs. This is especially true if the inoculations are made upon the surface of the brain underneath the dura mater. Nearly all species of animals are susceptible to the disease; but the virus undergoes certain modifications as regards its virulence and its period of incubation after passage through different species. In the transmission of the virus through a series of monkeys, the virulence gradually becomes diminished and the period of incubation longer. If, on the other hand, the virus is passed through a series of rabbits, the virulence is gradually increased and the period of incubation becomes shorter. The average period of incubation of rabies in rabbits which have been inoculated underneath the dura mater, after trephining with the spinal cord of a dog just dead of the disease, is about fifteen days. However, if the virus is passed successively through a series of rabbits from the first to the second, from the second to the third, and so on, always using for the inoculation of the following animal the spinal cord of the one just dead of the disease, and in each case making the inoculations underneath the dura mater in the same manner as in the first instance, the period of incubation becomes gradually shorter, and, after the passage through a series of twenty-five rabbits, the time is finally reduced to eight days. In the transmission of this virus through a second series of twenty-five rabbits, the period of incubation is further reduced to seven days, but at this point apparently becomes stationary, as this time is not materially diminished in the passage through a third series of forty animals. Commencing these experiments in November, 1882, at the end of three years Pasteur had inoculated in this manner sucessively a series of more than ninety rabbits, without having had this series once interrupted or broken. He says of this:

"Nothing is easier, therefore, than to have at one's disposal, after considerable intervals of time, a virus of perfect purity always identical, or nearly so. This constitutes the practical point of the method."

If, now, the cord is removed (with all possible care to prevent contamination with foreign matters) from a rabbit just dead of rabies, and is suspended in a jar, the air of which is artificially dried and kept at a constant temperature of 20° C., it gradually loses its virulence until, at the end of about fifteen days, this has become quite extinct. The time required for the extinction of the virulence is somewhat dependent upon the thickness of the spinal marrow and upon the external temperature. The spinal cords which have been subjected to this process of desiccation for a shorter period than fifteen days possess a gradually increasing virulence inversely proportionate to this time. The conditions remaining the same under which the cords have been preserved, the degree of virulence is always constant, or nearly so. If the infectious cords, while in a moist condition, are protected from the atmospheric air, and submerged in carbonic acid gas, the virulence may be preserved unaltered for several months, providing only that no foreign micro-organisms gain access to them. According to Pasteur, "these observations constitute the scientific points of the method.

To render a dog refractory to rabies the following method is pursued:

On the first day the animal is inoculated with a portion of the cord (removed from a rabbit dead of rabies appearing after an incubation period of seven days) which has been preserved in a dry air for about fourteen or fifteen days, and has thus been deprived of all its virulence.

On the following day a cord twelve or thirteen days old is used, and on the succeeding days the inoculations resolve themselves into about the following order:

3d	day	spinal cord	11	days	old.
4th	"	" "	9	"	"
5th	"	" "	7	"	"
6th	"	" "	6	"	"
7th	"	" "	5	"	"
8th	"	" "	4	"	"
9th	"	" "	3	"	"
10th	"	" "	2	"	"
11th	"	" "	1	"	"

This is about the order followed, more inoculations being here described than are perhaps essential or usually employed in practice. The inoculations with the cords which have lost their virulence through the proccess of desiccation gradually render the animal insusceptible to the most virulent forms of the virus; so that, finally, no symptoms follow inoculations with a virus which produces rabies in dogs with great certainty in from eight to ten days, when the animals have not heen previously protected by inoculation with the less virulent cords. In this manner dogs may be rendered refractory to rabies, even when they are subsequently inoculated, underneath the dura mater after trephining, with the most virulent virus.

The efficacy of this methed was proved by subjecting fifty dogs to these inoculations, with success in every case in rendering the animals refractory to rabies. After having arrived at these results, Pasteur felt justified, after consultation with Dr. Vulpian and Dr. Grancher, in subjecting to the treatment a boy, Joseph Meister by name, who had been bitten by a rabid dog, and who unexpectedly presented himself at the laboratory for treatment on July 6.

This boy had been bitten on July 4 in fourteen places by a dog which was supposed to be undoubtedly rabid. Many of the wounds were very deep, and a portion of them only had been cauterized twelve hours after the accident, so that, in the opinion of Dr. Vulpian and Dr. Grancher, the boy seemed certainly destined to develop hydrophobia. He was accordingly subjected to the following inoculations;

July	6th,	8 P. M.	spinal marrow	of	June	21st,	15	days old.
"	7th,	9 A. M.	"	"	"	23d,	14	" "
"	7th,	6 P. M.	"	"	"	25th,	12	" "
"	8th,	9 A. M.	"	"	"	27th,	11	" "
"	8th,	6 P. M.	"	"	"	29th,	9	" "
"	9th,	11 A. M.	"	"	July	1st,	8	" "
"	10th,	11 A. M.	"	"	"	3d,	7	" "
"	11th,	11 A. M.	"	"	"	5th,	6	" "
"	12th,	1 P. M.	"	"	"	7th,	5	" "
"	13th,	11 P. M.	"	"	"	9th,	4	" "
"	14th,	11 A. M.	"	"	"	11th,	3	" "
"	15th,	11 A. M.	"	"	"	13th,	2	" "
"	16th,	11 A. M.	"	"	"	15th,	1	day "

Pasteur says of this case: "I dare say that a smaller number of inoculations would have been sufficient, but it is easy to understand that the first trial was made with the observation of every possible precaution."

In order to determine the virulence of the virus used, two rabbits were inoculated each day in the usual manner with the same virus as that used for the boy. These inoculations showed that the cords used on the 6th, 7th, 8th, 9th, and 10th of July were not virulent, since they did not produce rabies in the rabbits inoculated on these days. The cords used on July 11, 12, 14, 15, and 16 were all virulent, and were of a constantly increasing virulence. Rabies appeared after seven days of incubation in the rabbits inoculated with the cords of July 15 and 16, after eight days in those of the 12th and 14th, and after fifteen days in those of July 11. Notwithstanding the fact that, in the last inoculations, virus was used which was far more virulent than that of rabid dogs, still these inoculations were followed by no symptoms, and, now that more than six months have elapsed since this boy was bitten, he yet remains perfectly well.

The methods used for the preservation of the spinal cords and for the preparation of the virus for the inoculations are exceedingly simple. After the death of an animal from rabies, the spinal cord is removed with the greatest care and suspended in a flask about half a metre high. These flasks have rather large mouths, which are tightly plugged with sterilized cotton, and the bottoms are covered about one inch deep with caustic potash to absorb all moisture from the air. The room in which the flasks are placed and in which the virus is prepared for the inoculations is kept constantly at a temperature of 20° C. The lower the temperature, the longer the virulence of the cords may be preserved.

The virus used for the inoculations is always prepared fresh, and in doing this a piece a few millimetres in length is first snipped off from a cord that has the desired degree of virulence, as determined by the length of time that it has been suspended in the flasks. This piece is then rubbed up with a small quantity of sterilized chicken bouillon in a small conical glass. *There is no exact proportion between the amounts of spinal marrow and bouillon* used in the preparation of the virus. The spinal marrow, after being in this manner brought partially into suspension in the bouillon, soon settles to the bottom of the glass, and the comparatively clear fluid above is used for the inoculations. These are made in the case of the human being by hypodermic injections into the cellular tissue of the anterior abdominal wall. An ordinary Pravaz syringe is used for this purpose, and from half a syringeful to a syringeful of the bouillon is injected, in each case depending upon the age of the person under treatment. The spinal marrows that are used in these inoculations are always those obtained from rabbits which have died from rabies after a period of incubation of seven days.

These inoculations are not followed, either immediately or remotely, by any constitutional disturbance, so far as I was able to determine, and they produce only a slight local tenderness—scarcely more than that caused by a hypodermic injection of morphine.

The order of the inoculations as followed now in the treatment of the human subject is practically the same as that described above for rendering dogs refractory to the disease.

Since Pasteur's communication to the French Academy, on October 26, 1885, his laboratory has been besieged by many persons from all countries who had been bitten by rabid dogs, and, after the lapse of only a little more than two months, up to January 1, 1886, nearly one hundred and forty persons of all ages and nationalities had been subjected to these inoculations. The period that had elapsed after the accident, before the treatment was commenced, varied in different cases from a few hours to thirty-six days. In these one hundred and forty cases, up to the time of my visit to Paris, only one death had occurred, and in this case the child was not inoculated for the first time until thirty-six days after she had been bitten. Shortly after the inoculations were completed this patient died with clearly defined symptoms of hydrophobia. In explanation of the failure to prevent the appearance of the disease in this instance, Pasteur asserted that the period of incubation of the disease as transmitted from the rabid dog had elapsed before immunity had been conferred by the inoculations. This explanation certainly seems to be reasonable when we remember that the period of incubation of rabies in the human being, although usually more than thirty-six days, still not infrequently is less than this time. An interesting and serious question came up in connection with this death. It was, of course, possible that the disease might have been the result of the bite of the rabid dog, or might have been caused by the far more virulent virus used in the inoculations. A solution of this question was obtained in the following manner: The virus of a rabid dog, when transferred to a rabbit by inoculation underneath the dura mater after trephining, produces rabies on an average in fifteen days, while the most virulent cords used in the inoculations produce rabies in rabbits with the greatest uniformity in seven days, and in dogs in from eight to ten days. Pasteur then asserted that if rabbits were inoculated in the usual manner with material from the brain or spinal cord of this child, that if the disease in the child was produced by the inoculation, the rabbits would die of rabies which declared itself after a period of incubation of seven days; but if the disease in the child was due to the inoculation made by the bite of the rabid dog, then disease in the animals would not make its appearance until about the fourteenth or fifteenth day. Accordingly, rabbits were inoculated from the child's brain removed at the autopsy, and they died with the usual symptoms of rabies, which appeared on about the fifteenth day. The result of this experiment seems very satisfactory, but there is apparently a source of error in the possibility of the periods of incubation of the respective viruses being altered by their passage through the human being.

An important question immediately arises in connection with the conclusions to be drawn from the inoculation of these different persons, and that is in respect to the existence of genuine rabies in the many dogs by which they were bitten. As much care as possible is taken to ascertain this fact, but, of course, in some individual cases it can not be satifactorily determined, inasmuch as the dogs are so often killed before the presence of rabies has been absolutely shown or before the animals have been examined by competent veterinarians. In many of the cases there can be no question as to the genuine nature of the malady with which the dogs were affected, and, as the number of persons already inoculated is very large and is being constantly augmented, the importance to be attached to the doubtful cases is proportionately diminished. The conditions obtaining in the cases of the first Americans—four in number, who were sent to Paris for treatment in the care of Dr. F. S. Billings—as regards this point would have been exceptionally satisfactory providing only the dog by which these children were bitten was shown to be rabid. This, apparently, was not the case. Six children and a number of dogs were bitten by the same dog, supposed to be rabid. The animal was immediately killed, but a number of the dogs bitten were placed under confinement. The wounds of all the children were cauterized after the lapse of a few hours. Four of the children were sent to Paris and were treated by M. Pasteur; the two others remained at home.

In this case the dogs which were bitten and placed under confinement, and the two children which remained at home, served as a control on those inoculated, but, inasmuch as more than ninety days have elapsed since the accident and neither the inoculated children nor the dogs bitten have developed any symptoms of rabies, the probable result is evident.

At the time of the writer's visit to Paris there were from twenty to twenty-five persons being inoculated daily, and scarcely a day passed that some new patients did not present themselves for treatment.

The principles underlying Pasteur's method for the preventive treatment for hydrophobia may be stated in a few words as follows: The period of incubation of rabies as transmitted from the dog to other animals and man is very variable, but in man, as a rule, is exceedingly long, being rarely less than thirty days. By the passage of rabies from dogs through a series of rabbits the period of incubation of the disease may be finally reduced to about seven days, as it occurs in these animals. The virulence of the spinal cords from rabbits dead of a seven-days rabies may be diminished in a constant degree by suspension in an absolutely dry air at a given temperature. Man or animals that have been subjected to a series of inoculations with these cords of diminished virulence, beginning with a very weak virus and gradually going on to a stronger and finally to the most virulent form, gradually become insusceptible to the most virulent virus. The period of incubation of this virus is very short, and the time required to confer insusceptibility to the disease is much less than the ordinary period of incubation of hydrophobia as produced in man by the bite of a rabid animal; consequently, if too long a time has not elapsed after the bite of a rabid dog before treatment is commenced, the person or animal may be rendered insusceptible to the disease before this period of incubation has elapsed. The time that may elapse in the case of the human being bitten by a rabid animal before successful treatment may be commenced is probably, as a rule, not less than twenty days, and in some cases may be considerably more than this, but is perhaps as variable as the period of incubation of the disease in different cases in the human subject resulting from the bites of rabid dogs, and is dependent upon the same idiosyncrasies of the individuals.

As to the interpretation of the prophylaxis against rabies, Pasteur says that the attenuation in the virulence of the rabic cords by the process of desiccation is explained on the supposition that the continuous contact of the dry air produces a gradual diminution in the intensity of the virulence of the cords until it finally becomes extinct; that the prophylactic method in its application depends for its efficacy upon the employment at first of a virus without appreciable activity, followed by a weak virus, and then by a more and more virulent form; that the diminution of the virulence of the cords is due to an impoverishment in quantity of the virus contained in them, and not to an impoverishment in virulence; consequently in the inoculations the virus used is always identical as regards its virulence, and is variable only in respect to the quantity employed, so that the refractory condition to rabies follows from the employment of very small but constantly increasing quantities of a virus possessing always the same degree of virulence. This interpretation of the method of action of the virus is the more interesting as a new and quite different principle is involved from that obtaining in the vaccine for small-pox or the vaccines devised by Pasteur for the prevention of anthrax, chicken-cholera, and typhus in pigs. In small-pox we have a virus modified in character and virulence by its passage through another species of animal; in anthrax, chicken cholera, and typhus in pigs we have a virus modified in respect to its virulence by the conditions of temperature to which it has been subjected during its growth; and, finally, in rabies we have a prophylactic method dependent upon the employment of a virus always constant as regards its virulence, but used in very small and constantly increasing quantities. Apparently, then, already there have been three methods discovered for the preparation of preventive vaccines for different forms of the contagious diseases. The theoretical principle has been also established by the researches of Pasteur, and more recently by Burdon Sanderson, the report of whose investigations has not yet been published, of the possibility of depriving cultivations of pathogenic micro-organisms of their virulence in a constant and persistent degree without in any other respect affecting their morphological or biological characteristics. These methods for preventive vaccination—taken in connection with this principle, which is involved in one of them—present almost unlimited possibilities in preventive medicine, and possess a significance the importance and far-reaching nature of which it is scarcely possible for us to comprehend.

Pasteur gives in addition an explanation as to the method of action of the virus in the living organism. He says: " It is possible to give a still further interpretation—an interpretation surely very strange at first thought, but which deserves the greatest consideration, especially as it is in harmony with certain results obtained in the observations of phenomena in the life of some other forms of the lower organisms, and especially of several of the pathogenic bacteria which give birth in their cultivations to a material which has the property of preventing their own further development."

After referring to the micro-organisms of chicken-cholera, typhus in pigs, and the cultivations of *Aspergillus niger*, he continues: "Is it not possible that the rabid virus may be formed of two distinct substances, one of which is living and capable of multiplication in the nervous system, and the other is non-living, having the power, when present in sufficient proportion, of arresting the development of the first? I have considered experimentally in a previous communication, with all the attention that it deserves, this third interpretation of the method of prophylaxis of rabies."

I cannot conclude this portion of this paper without a reference to two interesting and important questions that arise in connection with this method of prophylaxis. The first of these is the possibility of transmission of the disease, by animals or the human being subjected to these inoculations, to other animals or human beings during the process of inoculation, or in any period after this time. Pasteur states that he has made no experiments or observations upon this point. The second question is as to the duration of the refractory condition of rabies after the series of inoculations has been completed. This period Pasteur believes to be not less than one year, and to be probably considerably longer than this, but no careful data upon this point are at present at hand.

What conclusions, now, are to be drawn as to the accuracy of Pasteur's observations upon rabies and the efficacy of his method for the prevention of the disease in animals and man after bites by rabid dogs? Let us review rapidly the experiments that have already been made, and discuss briefly the assertions that are based upon them. Pasteur's first communication upon rabies was is 1880—more than five years ago. At that time he thought he had discovered a new micro-organism in the saliva of a child who had died of hydrophobia, and described a new disease as being produced in rabbits by inoculations with this germ. These observations were a little later shown to be incorrect, and were acknowledged to be so by Pasteur. Since that time he has been studying this disease constantly, and from time to time has reported more or less fully the results of his observations to the French Academy. His investigations have led out in many directions, and the conclusions reached in these experiments, as reported in his last communication to the Academy, have been the result of a gradual development extending over nearly six years of tireless investigation.

As regards the first person inoculated, of whom we have heard so much, it has seemed to me that the evidence is far from satisfactory upon which rests the conclusion as to the rabid character of the malady affecting the dog which bit the now famous Joseph Meister. The indications point rather in quite another direction. It is certainly very unlike the ordinary behavior of rabid animals to fall upon a person with such ferocity and persistency as must have been the case in this instance, when the unfortunate victim was bitten in no fewer than fourteen different places. Apparently the only evidence upon which rests the supposition that the dog was mad is the result of the autopsy, and that certainly does not constitute sufficiently satisfactory proof. But, however this may be, certainly far too much importance, in my opinion, has been attached to this case, and it seems to me that the strongest evidence of the efficacy of Pasteur's method for the prevention of rabies rests, not upon any results thus far obtained in the inoculation of human beings, but upon the results of his experiments upon dogs. If in a single series of experiments he has not only been able to render fifty dogs refractory to rabies without a single failure, but also has succeeded in preventing the development of the disease in a large number of dogs after they had been bitten, both of which he asserts positively he has succeeded in doing, then the question as to prevention of the disease in the human being is only as to the method of application. For certainly dogs are far more susceptible and liable to the malady than human beings, the character of the disease is evidently the same in both man and dogs, and, if dogs can be brought into a refractory state to the disease, certainly it is not assuming too much to conclude that the same is true in the human being.

The preliminary report of the commission appointed by the Minister of Public Instruction in 1884 to examine and report upon the results obtained up to that time is also of interest here. As incorporated in Tyndall's introduction to the life of Pasteur, it may be summed up as follows:

"Of six dogs unprotected by vaccination, three succumbed to the bites of a dog in a furious state of rabies.

"Of eight unvaccinated dogs, six succumbed to the intra-venous inoculation of rabic matter.

"Of five unvaccinated dogs, all succumbed to inoculation upon the surface of the brain after trepanning.

"Finally, of three-and-twenty vaccinated dogs, not one was attacked with the disease subsequent to inoculation with the most potent virus."

Surely these results upon dogs are of a nature to at least attract the careful consideration and attention of scientific men throughout the world.

But, throwing aside the evidence which we have now at hand as to the efficacy of Pasteur's method—and I think we must admit that it is not altogether satisfactory in character—let us consider the probability of the correctness of these last observations from the light thrown upon the subject by his former work. Does it seem probable that the man who, in the earliest infancy of bacteriology, disclosed the nature and cause of fermentation, and established our knowledge of it on a firm foundation in the face of much opposition and skepticism—the man who disproved the theory of spontaneous generation, and laid the foundation upon which rests our whole system of antiseptic surgery, who disclosed the nature of the plague in the silk-worms in France and devised the methods for its prevention, who discovered the principles underlying the method of protective vaccination in the disease of animals and who has prepared the only practicable vaccines, who has contributed as much as any man who has ever lived to our knowledge of micro-organisms and their relation to disease—does it seem probable that such a man has given nearly six years of continuous study to the consideration of rabies without achieving some substantial results? Or does it seem probable that he has been dealing all of these years with some form of septicæmia, as has been suggested, laboring under the delusion meanwhile that it was rabies? This I can not believe, and, if it is not true, then Pasteur's conclusions must be in the main correct, for certainly no one will question his honesty.

Every great theory in science has been met by skepticism, opposition, and ridicule. The theory of gravitation, the theory of evolution, the theory of undulation, the atomic theory of matter, the dynamic theory of heat—have all been compelled to fight their way to victory. So it has been with the germ theory of the infectious and contagious diseases. Many members of the medical profession, in spite of the indisputable facts that have been adduced to prove this, still refuse to accept it.

Pasteur's prophylactic method for rabies rests purely on empirical grounds, and can only be fairly judged by the practical results obtained by its use. So far as we know at present, these have sustained the professions of the learned discoverer, and, until they are refuted by further observations, I believe it is unjust to characterize this work of Pasteur's, as has recently been done, as being founded "on untrustworthy experiments and unsound reasoning," deserving "to be rejected and condemned in the interests of humanity as well as science." On the other hand, if future observations confirm the results that now seem to be at least probable, this discovery, added to his other achievements, will rank Pasteur as one of the greatest benefactors of his race that this generation has produced, and, from a scientific standpoint, it will be considered one of the grandest triumphs of the century.

ORIGINAL CORRESPONDENCE.

LETTER FROM BERLIN.

BERLIN, March, 1886.

To the Editor of Gaillard's Medical Journal.

DEAR SIR: Having had the honor of appearing once in the pages of the JOURNAL as a contributor, I claim the privilege of sending you a letter from Berlin, touching in some measure what I have seen and learned here, with the hope that these things may be no less interesting to you and your readers than to the writer.

In such a brilliant galaxy as that presented by the Faculty of this, the German metropolis, it would be difficult to describe the men or their methods with anything approximating due justice. I shall therefore be content to review some of them in a cursory manner only.

Koch's bacteriological course is, perhaps, the newest and certainly one of the most interesting in the city. It lasts one month, the number of students is limited, and the demand for entrance is so great that places have to be spoken for months beforehand. It consists in the cultivation of all forms of low life, from the monads to the comma bacillus of cholera. I will say just here that the comma bacillus of Koch is cultivated only by himself and his assistants. It is considered too dangerous to be intrusted to less experienced and cautious hands. Each student, however, is allowed to put up specimens of the dead bacillus. They are allowed to cultivate the comma bacillus of Finckler.

The course is spoken of in the highest terms by all who take it; the instruction is given by the assistants; Koch himself only lectures. The cost of the course itself is comparatively small, something between $25 and $50.

Professor Koch lectures throughout the session on infectious and contagious diseases; they contain, undoubtedly, an immense amount of information, but the Professor, suffering, like many other great men, from a high degree of modesty, is unable to make himself heard at the distance of three benches. His opinion in regard to the relation of the prevalence and severity of the disease to the water-supply are well-known. He deduces many facts to prove that the mortality has been reduced after purification of the water-supply. He has discovered the at once infinitesimal and gigantic enemy, and we now only need a greater one, shall I say, to find the means of defense and restore us. Professor von Bergmann leads in the line of distinguished surgeons here. He is professor of surgery in the University. For operating he has had built a separate department, to which the patients have to be carried from the wards. This was done for the sake of more accurate antisepsis, but the advantage, I should think, is more than overweighed by the necessity of moving the patients through the courtyard before and after operations. There is no lack of material for the demonstration of all manner of surgical diseases and operations. The general impression is that he is somewhat rash as an operator—skilled and brilliant he certainly is. Private patients are often operated upon in the clinic—a fact which I have quite frequently observed here in Germany. Professor Schroeder's clinic is the chief feature of interest in gynæcological circles. It is always crowded to overflowing by visitors and students. The diseases of women seem to be no less popular here than in America. It is quite difficult to get admitted to his operations. An immense amount of "red-tape" has to be encountered before one succeeds, as only a limited number are admitted. His ovariotomies are performed in a room connected with his private dwelling; white linen gowns are worn by operators and assistants.

Gusseroid, at Charité Hospital, holds a gynæcological clinic; he speaks English fluently and is peculiarly courteous to Americans. It has not been my fortune to hear him. I could mention the practical gynæcological course of Professor Martin; I have been informed by friends who have taken it that it is excellent. It comprises both diagnostic and operative work.

The great Virchow divides his genius between the Reichstag and his laboratory. It is difficult to say in which he is greater. His auditorium is always full; he speaks with wonderful energy for a man of his age. He is somewhat erratic as to the time of his lectures; it not infrequently happens that he fails to come at all—at others he lectures the whole morning.

Helmholz, the discoverer of the ophthalmoscope, still lectures in the University, and like a true genius, not content with the height which he has already attained, still pursues with untiring energy the study of physics.

Having busied myself here with the study of the eye and ear, I might speak at greater length and more minutely of the work done in these departments. I shall, however, not follow the bent of my own inclinations, but be impartial.

Professor Schweigger and Professor Hirschberg occupy the most prominent positions in eye matters here. The reputation of neither needs further embellishment.

Professor Schweigger is the director of the University clinic. The material of the clinic is immense. Great opportunity is offered for observation, but none for personal and independent work. The lecture room and the wards are in the same building as the clinical room, and are shown often through courtesy to professional visitors.

With Professor Hirschberg, I think, lies the greatest chance of independent examination. His lectures are interesting, as well for their brightness and vividness as for their historical and scientific features.

His operating room is a model of scientific accuracy and care. Perfect antisepsis is aimed at; the floor and tables are of marble; the walls are varnished or oiled, so that they may be readily washed, and all other appliances are made of glass or metal. Of course, there are many more illustrious men here in physiology, chemistry, skin diseases, etc., whom I have unfortunately had no chance to see or hear. It is impossible to visit all the clinics when one is busied with special work.

I cannot conclude this letter without mentioning a cure which has just been obtained by a young American studying here.

Professor Liebreich has but recently discovered a fat, which differs from all known fats in that it is miscible with water. Soon after its discovery, it was recommended by dermatologists as an excipient for salves in skin diseases. Dr. Wende of Buffalo, N. Y., the young American in question, determined to try it in favus, in combination with chrosophanic acid.

He had his arm inoculated with a pure culture taken from the head of a boy in Professor Behrend's clinic. A genuine favus patch was cultivated which yielded to *one* application of the salve. By courtesy of Dr. Behrend he was then given the boy to treat, and a complete cure was effected in six weeks from the first application. The fat in question is called "Lanolin," and the method of application is to thoroughly rub in with the hand. Professor Liebreich has already, I believe, called attention to the case in an article on "Lanolin." This is undoubtedly a great addition to dermatological therapeutics and a boon to humanity. The easy-going ways of these European people are a source of great worry to us impatient and nervous Americans. I know of no more abominable institution than the "academic quarter" which each professor takes with scrupulous exactness—many of them prolong it to twenty minutes or half an hour. When one has three or four clinics daily, and loses a quarter of an hour at each, he succeeds at length in losing an hour or so of valuable time. It is also the custom to commence lecturing at the beginning of the session a little later, and to stop a week or ten days before it is finished.

With all these short-comings, however, the European is not behind in anything; perhaps, herein lies a great secret, which we Americans cannot yet comprehend, but which we may when our country has grown older, and we have time enough to keep from treading on one another's heels in the race.

Very truly yours,

J. HERBERT CLAIBORNE, JR., M.D.

REVIEWS.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. By Alfred Vogel, M. D., Professor of Clinical Medicine in the University of Dorpat, Russia. Translated and Edited by H. Raphael, M. D., formerly House Surgeon to Bellevue Hospital, Physician to the Eastern Dispensary for the Diseases of Children, etc. Third American from the Eighth German Edition, Revised and Enlarged. Illustrated by Six Lithographic Plates. New York: D. Appleton and Company, 1885. Pp. xii—640.

Vogel on diseases of children has long been a standard, and while not without some defects it possesses certain excellences peculiar to itself. It is now fifteen years since the second American edition, which has been for some time exhausted, appeared, and it was therefore highly desirable that a new one should be brought out containing the author's latest additions to the work, and such comments as the recent progress in pediatrics, particularly among the profession in America, might suggest to the editor as likely to prove of service. The work of the latter appears for the most part to have been well done, and some of the notes giving the results of his personal experience are of special interest.

It seems strange that a writer like Vogel in preparing a systematic treatise on the diseases of children should have omitted all mention of cerebro-spinal fever, and an article on this affection has been added in the present edition by Dr. Raphael. The doctor states in the preface that the arrangement of the infectious diseases in this issue will be found to be more scientifically correct. The classification adopted, however, is not very satisfactory. Section I. of Chapter 7th is devoted to the eruptive fevers, under which designation are named scarlet fever, measles, rötheln, small-pox (including vaccination), varioloid and chicken-pox. Then, in Section II., are given the "miasmatic" diseases, which include diphtheria, typhus fever, cerebro-spinal meningitis, cholera, whooping-cough and mumps. If these are "miasmatic" diseases, the eruptive fevers certainly are also; yet one would infer from the arrangement here that such was not the case. The caption of Section II. ought, therefore, properly to read

"Other miasmatic diseases." The term *miasmatic*, however, scarcely seems well chosen in this connection, on account of its etiological significance, as the word is now commonly understood; and it would have been better to employ some such adjective as specific, infectious or zymotic, the latter being generally considered appropriate as applied to the class of diseases in question. Or, all the affections in the three sections might have been grouped together under some such general designation as "Diseases arising by contagion and running a definite course;" Section III. of this chapter being devoted to the consideration of malaria.

It is not very clear why typhus fever should have been separated from the other eruptive fevers until, in examining the article itself, one comes to find out that the disease referred to is really typhoid, the *typhus abdominalis* of the Germans. In a translation for American or English readers the word typhus ought certainly to have been rendered typhoid or enteric.

The plates at the end of the work are excellent, particularly those representing some of the lesions of rachitis, but the index is not as complete as it should be.

MIND YOUR EYES! Good advice from a Near-Sighted Man to His Fellow Sufferers. Translated (with the Author's permission) from the French of Francisque Sarcey. By Henry Dickson Bruns, M.D., Visiting Oculist to the Charity Hospital, New Orleans, La. New Orleans: New Orleans Medical Publishing Association, 1886.

This is a very charming little book; and, being little and being charming, the reader cannot relinquish it without having read it through. There results, therefore, a very strong impression in favor of the book, and it may be rationally argued that one large dose of a small book is calculated to do more good than many homœopathic doses from a larger one. The effect produced is more vivid, and, if the subject is well handled, a more complete knowledge of it is attained.

Mr. Francisque Sarcey's chief object in thus writing is to warn myopic people to wear glasses in time, and thus to avoid the danger of cataract. As being himself the victim of very high myopia, and having, through neglect and ignorance of the impending danger, lost one eye and in the other suffered from a cataract, which was finally removed, he feels impelled to write out for the benefit of his fellow sufferers all the particulars of his case. He does this in a style at once simple and philosophical, and in the particular vein of humor so eminently French.

It would be very pleasant to give portions of his narrative here, but as the book is within the reach of every reader—and as every reader should certainly possess a copy of it—that is scarcely necessary. So far as the accurate scientific knowledge displayed in the little work is concerned, it need only be said that Dr. H. D. Bruns has given it the high sanction of his endorsement.

The New Orleans Medical Publishing Association has brought it out in large type and on excellent paper.

BOOKS AND PAMPHLETS RECEIVED.

"The Methods of Bacteriological Investigation." By Ferdinand Heuppe, Docent in Hygiene and Bacteriology in the Chemical Laboratory of R. Fresenius, at Wiesbaden. Translated by Herman M. Biggs, M.D. New York: D. Appleton & Co.

"Transactions of the Medical Society of the State of Pennsylvania at its Thirty-sixth Annual Session, held at Scranton, Pa., May 27, 28, 29, 1885." Vol. XVII. Published by the Society.

"Coca Erythroxylon and its Derivatives." A *Résumé* of their History: Botanical Origin; Production and Cultivation; Chemical Composition; Therapeutic Application; Physiological Action; and Medicinal Preparations. Embracing Reports on their Employment in General and Minor Surgery; Ophthalmology; Otology; Laryngology; Gynæcology; Genito-Urinary, Nasal, and Dental Surgery; in the Treatment of the Alcohol and Opium Habits; in General Medicine, etc., etc. Compiled by the Scientific Department of Parke, Davis & Co., Detroit and New York.

"Seventh Annual Report of the State Board of Health of Illinois." Springfield, Ill. 1885.

"A Case where Lithotomy was Twice Performed within Fourteen Months, with Remarks on the Recurrence of Stone in the Bladder." By Reginald Harrison, F. R. C. S. Reprinted from the *Liverpool Medico-Chirurgical Journal.*

"Insidious Septicæmia: A Rare, Deceptive, and Fatal Form of Disease." By George J. Engelmann, M.D. Reprinted from Vol. IX. *Gynæcological Transactions.*

"A New Departure in Uterine Therapeutics. The Dry Treatment." By George J. Engelmann, M.D. Reprinted from the *St. Louis Courier of Medicine.*

"Washington Obstetrical and Gynæcological Society. Third Annual Address of the President, Samuel C. Busey, M.D., The Hygiene of Pregnancy." Reprinted from *The American Journal of Obstetrics and Diseases of Women and Children.*

"The Natural Hygiene of Child-Bearing Life." By Samuel C. Busey, M.D., Washington, D. C.

"Puerperal Pyrexia." By George P. Andrews, M.D. Reprinted from the *American Lancet.*

"Announcement of the St. Louis Post-Graduate School of Medicine, Polyclinic, and Hospital, 1886."

"Twelfth Annual Report of the Superintendent of the Cincinnati Sanitarium, for the year ending November 30, 1885."

"The Bromides: Their Physiological Action, Therapeutic and Toxic Effects, Alone and in Combination." By Wm. B. Hazard, M.D. Reprinted from GAILLARD'S MEDICAL JOURNAL, February, 1886.

"Cocaine in Hay Fever." A Lecture Delivered at the Chicago Medical

College. By Seth S. Bishop, M.D. Reprinted from *The Journal of the American Medical Association*, Feb. 6, 1886.

"Catarrh of the Upper Air-Tract; Especially its Effects on the Ear. With Suggestions as to Treatment, both Hygienic and Medical." By Samuel Sexton, M.D. Reprinted from *The Medical Record*, Jan. 30, 1886.

"Circulars of Information of the Bureau of Education." No. 3. 1885. A Review of the Reports of the British Royal Commissioners on Technical Instruction, with Notes. By the late Charles O. Thompson, A. M., Ph.D., President of Rose Polytechnic Institute, Terre Haute, Indiana. Washington: Government Printing Office. 1885.

"Circulars of Information of the Bureau of Education." No. 4. 1885. Education in Japan. Washington: Government Printing Office. 1885.

"Fifth and Sixth Annual Reports of the Thomas Wilson Sanitarium for Children of Baltimore City." 1885 and 1886.

"Eighth Annual Report of the Presbyterian Eye, Ear, and Throat Charity Hospital, Baltimore." 1886.

MISCELLANEOUS.

FACTS WANTED IN REGARD TO SYPHILIS.—In concluding a general notice of Mr. Jonathan Hutchinson's recent Lettsomian lectures, on "Some Moot Points in the Natural History of Syphilis," the *Lancet* says: It is greatly to be desired that all who have the opportunity will furnish the certain classes of facts which Mr. Hutchinson regards as still wanting. These are: Cases in which twins, one or both, suffer from inherited syphilis; they should be followed up through as long a period as possible. Cases in which women acquire syphilis during pregnancy, with especial attention to the question of the freedom of both parents from any former taint; in these cases it is desired to ascertain the effect upon the previously healthy fœtus of syphilis acquired by the mother at different periods of pregnancy. All exceptions, or apparent exceptions, to Colles' law (that a sucking child cannot infect the nipple of its own mother). All instances of children born alive with indications of syphilis upon them. All cases of pemphigus infantum, or of other syphilitic eruptions, making their appearance during the first week of life." These, as Mr. Hutchinson observes, can only be obtained from those practitioners who are engaged in family practice, who should be rejoiced to aid in so excellent a work as the clearing up of all doubtful points in the diagnosis of such a disease as syphilis. The writings of Acton, Ricord, Diday, Bassereau, Henry Lee. Berkeley Hill, Bumstead, Taylor, and last, but not least, Jonathan Hutchinson, clearly show that, instead of being ostracised from the study and practice of members of the profession, as formerly, the diagnosis, prognosis, and treatment of syphilitic and other venereal diseases form as learned, honorable, and scientific a specialty as any department of medicine or surgery.

THE PRINCE OF WALES'S DYSPEPSIA. (*From the London World.*) I am sorry to know that for some time past the Prince of Wales, although in other respects in fine health, has been rather a martyr to dyspepsia, which threatens to assume a chronic form, and that he is reduced to an "iron ration," both as regards quantity and character. So far back as his visit to Eaton Hall his enforced allowance for dinner consisted solely of the lean part of a mutton chop, and what Sir Andrew Clark calls a "hunk" of stale bread. The restriction on the fine appetite of his Royal Highness which his medical adviser has prescribed, and to which he adheres with a loyalty which must be a sore strain, is having the incidental effect of reducing his weight.

BISMARCK AND HIS DOCTOR. (*From the London World.*) Prince Bismarck is again indisposed, it is said, and that means work for Professor Schwenniger, the Prince's doctor. Schwenniger is the Roose of Berlin. Munich was to him what Brighton was to our English rising medico, and Bismarck's eldest son was his discoverer. This gentleman having had some sixty or seventy pounds' weight taken off him, and having been brought out of the very back teeth of death by following Dr. Schwenniger's advice, suggested that his father should also become a patient. The Chancellor was willing, but he could not go to Munich, and the doctor could not leave his practice there without a *quid pro quo.* The quid—several hundred quid—was found by his appointment to a Professorship in Berlin, which he now holds, in addition to an enormous private practice. He sees Bismarck daily, has brought him into perfect health, and has so tamed the tiger that the former periodical explosions in the Reichstag have entirely ceased, and there has been no change in the Government since Schwenniger has had charge of the Chancellor's digestion. Diet, not medicine, is what Professor Schwenniger swears by. No drugs, no mineral waters, no "kur" of any kind. Eat of only one dish, no matter what that may be. Oysters, lobsters, beef, mutton—eat your moderate fill of that, but touch nothing else at a meal; no vegetables, save perhaps a little salad, no sweets, no savories, and do not touch one drop of liquid until half an hour, in some cases an hour, after your meal is ended. There is the *crux* for those who like Chablis with their oysters, Madeira with their turtle, Marcobrünner with their fish, and D. and G.'s Gold-Lack with their first entrée. One dish only, and no drink until long after the meal is over. What does Lucullus—what does Sir Henry Edwards, of the statute—think of that?

MEDICAL NEWS.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—A special meeting, for scientific purposes, was held in the Common Council Chamber in the ancient Philipse Manor House, at Yonkers, Westchester County, on Tuesday, March 23, 1886. The President, Dr. J. G. Porteous, of Poughkeepsie, who has been appointed by the Council of the Association to this position, which was left vacant by the death of Dr. Desault Guernsey, elected at the last annual meeting, was in the chair, and numerous delegates were present from New York City, Brooklyn, and the counties along the Hudson River, as well as Suffolk and Richmond. The deaths of the following Fellows since the last meeting were announced: Drs. Austin Flint, Desault Guernsey, and I. G. Collins, Founders, and Drs. Isaac Purdy and Gaspar Griswold, Original. The following papers were read: "The Physician and Pharmacist, Their Relative Duties," by Dr. J. P. Garrish, of New York; "A Case of Meningeal Extravasation, with Remarks on the Localization of the Superficial Lesions," by Dr. Alfred L. Carroll, of Richmond County; and "Sacculation and Perforation of the Bladder, as Consequences of Chronic Retention of Urine," by Dr. J. W. S. Gouley, of New York. Biographical notices of the late Drs. Collins, Guernsey, and Purdy (the latter by title) were read by Drs. N. C. Husted, G. H. Codding, and T. W. Bennett. On motion of Dr. Carroll, the Chair appointed a committee to prepare suitable resolutions in reference to the death of Dr. Flint, and the gentlemen named on it were Drs. Carroll and E. H. Squibb. The resolutions are appended. Dr. C. A. Leale, President of the New York County Medical Association, spoke of the profound veneration for Professor Flint, as shown by the large attendance at his funeral, and read the memorial address prepared by the Executive Committee of the County Association held on the day following his death. The Secretary, Dr. P. Brynberg Porter, announced that the next meeting of the County Association would be exclusively devoted to commemorative exercises in honor of Dr. Flint, and Dr. Leale cordially invited all members of the Fifth District Branch to be present and take part in them on that occasion. It was decided that a special meeting of the Branch should be held at Kingston, Ulster County, on the third Tuesday of June next, and on motion of the Secretary, Dr. E. H. Squibb, the Chair appointed the following Committee of Arrangements: Dr. H. Van Hoevenberg, of Kingston, Chairman; Drs. J. Chambers and F. H. Hühne, of Kingston; Dr. A. Hühne, of Rondout; and Dr. Baker, of Rhinebeck. After offering a vote of thanks to the Mayor and Common Council of Yonkers for their courteous permission of the use of the Council Chamber, the meeting adjourned.

THE DEATH OF DR. FLINT.—The Fifth District Branch of the New York State Medical Association desires to record its unfeigned grief at the decease of its most distinguished Fellow and Founder:

In the death of Austin Flint, M.D., LL.D., a loss has befallen the medical profession which will be sadly recognized as almost irreparable, not only in America, but throughout the civilized world. Few men of this generation have done so much to exalt the dignity of our chosen calling, and both at home and abroad all who knew him conjoined with reverence for his intellectual power and scholarly attainments a sense of personal attachment. Whether as an exponent of scientific medicine or as an exemplar of professional integrity and private virtue, he stood conspicuous among the best of his contemporaries, and at the ending of a life without reproach, of a career lavish in benefactions to mankind and rich in well-merited honors, no enmity will slur his memory, no jealousy dispute his leadership.

E. H. SQUIBB, M.D.,
Secretary.

J. G. PORTEOUS, M.D.,
President.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.—The next meeting, which will be held in the Carnegie Laboratory, Monday evening, April 19, will be entirely devoted to memorial exercises in honor of the late Dr. Austin Flint. The mourning decorations which were put up in the building at the time of his death will be allowed to remain until after this commemoration, and addresses and letters from many distinguished medical men in various parts of the State and country are expected.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—The 25th annual commencement was held at the Carnegie Laboratory March 15, when there were 139 graduates. Instead of the usual formal address, Dr. John C. Dalton, President of the College of Physicians and Surgeons, made a few remarks, in which he paid a touching and eloquent tribute to Professor Flint.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.—The 45th annual commencement was held at the Academy of Music in this city March 6. There were 173 graduates, and the address to the class was made by the Hon. Wayne McVeagh, of Pennsylvania.

COLLEGE OF THE CITY OF NEW YORK.—Wm. Stratford, A.M., M.D., Ph. D., has been appointed to the professorship of Natural History, Physiology and Hygiene, made vacant by the death of the late Dr. John A. Draper.

THE NEW BUILDING OF THE LONDON COLLEGES OF PHYSICIANS AND SURGEONS.—On the 24th of March, Queen Victoria, in accordance with previous announcement, went in state to open the ceremony of laying the foundation stone of the building to be erected conjointly by the Royal Colleges of Physicians and Surgeons. She was accompanied by the Prince and Princess of Wales and other members of the royal family, and was everywhere received with much enthusiasm.

ASTLEY COOPER PRIZE.—It is announced that the next triennial prize of £300, under the will of the late Sir Astley P. Cooper, Bart., will be awarded, early in 1889, to the author of the best essay or treatise on "The Origin, Anatomy, Results, and Treatment of Tubercular Diseases of Bones and Joints." The conditions annexed by the testator are, that the essays shall contain original experiments and observations which shall not have been previously published; and that each essay shall (as far as the subject shall admit of) be illustrated by preparations and drawings, which shall be added to the Museum of Guy's Hospital, and shall, together with the work itself, become henceforth the property of that institution. And it is especially declared iu the will that no physician, or surgeon, or other officer of Guy's or St. Thomas' Hospital, nor any person related by blood or affinity to any officer in either of the said hospitals, shall at any time receive or be entitled to claim the prize. But, with the exceptions here referred to, this prize is open for competition to the whole world, though the essay may not be the joint production of two or more authors.

AN ASSOCIATION OF PHYSICIANS AND PATHOLOGISTS.—The following circular has been addressed to a number of prominent physicians in different parts of the country:

Philadelphia, February 15, 1886. Dear Doctor: In view of the undoubted advances which have everywhere followed in the different departments of medicine the formation of special societies devoted to their interests, and in view of the fact that each one of the natural divisions of medicine, except those of general medicine and pathology, is represented in this country by a special society, it has occurred to some members of the profession that a similar association of physicians and pathologists is desirable. Accordingly, two preliminary meetings were held in New York City on October 10th and December 29, respectively, at which the matter was thoroughly discussed, and, after a general expression of opinion, it was finally decided: 1. To form an association of physicians and pathologists, of which the number of members shall be limited to one hundred (100). 2. To hold an annual meeting in the month of June in the city of Washington. 3. To hold the first meeting on Thursday and Friday, the 16th and 17th of June, 1886, under the presidency of Dr. Francis Delafield, of New York. The undersigned were appointed a committee to notify those who were selected as original members, and we accordingly have the honor to cordially invite you to join this association and to take part in the proceedings of the first meeting in Washington as above stated. Francis Minot, Boston (Chairman of the Committee); William H. Draper, New York City; William Pepper, Philadelphia; R. Palmer Howard, Montreal, Canada; Alfred L. Loomis, New York City; William H. Welch, Baltimore, Md.; Francis Delafield, New York city; James Tyson, 1506 Spruce Street, Philadelphia, Secretary of the Committee.

HUNTER'S HOUSE.—The suburban residence of John Hunter has at length come under the auctioneer's hammer, and the site will soon be covered with new buildings. For several weeks before the sale, a large number of members of our profession, antiquarians, and other lovers of old institutions, have visited the premises. Many enthusiasts admit that they feel actually grieved at the impending destruction of the house and grounds; still, it is not necessary to remind anybody as to what are the true memorials of John Hunter. They are to be found in the museum of the Royal College of Surgeons, and, in an abstract sense, in the high social regard which, through his influence, has been paid to surgery and biology as professions ever since his lifetime.—*British Medical Journal.*

BEQUEST TO THE NEW YORK PATHOLOGICAL SOCIETY.—Dr. John C. Peters has received the following note from Dr. Middleton Goldsmith, of Vermont: Dear Peters: I hereby agree to give in trust to the New York Pathological Society (when incorporated) ($2,000) two thousand dollars, in money or securities, as the Society may elect, and promise to give by will ($3,000) three thousand dollars more, payable at the death of my wife and myself. This promise, I am assured, is good in law. Yours very sincerely,

M. GOLDSMITH.

RUTLAND, Vt., March 3, 1886.

GERMAN MEDICAL CONGRESS.—The fifth German Congress for Internal Medicine will take place, from April 14 to 17, at Wiesbaden, under the presidency of Professor Leyden. Papers on the Pathology and Treatment of Diabetes Mellitus, the Operative Treatment of Pleural Effusion, and the Treatment of Syphilis will be read; and others have been promised on the following subjects: Antipyresis, Ptomaines, Heredity in some Diseases, and Fluctuations of Blood-pressure in the Cardiac Ventricle during Narcosis from Morphia.

FIVE CHILDREN AT A BIRTH.—Dr. V. Teyxeira reports in the *Gazzetta degli Ospitali* that a woman in the seventh month of pregnancy was delivered of five living children—two females and three males. Three had died, and two seemed in a hopeless state at the date of report. The mother was progressing fairly.

THE NEXT MEETING OF THE AMERICAN MEDICAL ASSOCIATION.—The organization of the next meeting of the American Medical Association, to be held in St. Louis, Mo., on May 4, 5, 6 and 7, is announced as follows: Practice of Medicine, Materia Medica, and Physiology: Dr. J. T. Whittaker, Cincinnati, O., Chairman; Dr. B. L. Coleman, Lexington, Ky., Secretary.

abstetrics and Diseases of Women and Children: Dr. S. C. Gordon, Portland, Me., Chairman; Dr. J. F. Y. Paine, Galveston, Tex., Secretary. Surgery and Anatomy: Dr. Nicholas Senn, Milwaukee, Wis., Chairman; Dr. H. H. Mudd, St. Louis, Mo., Secretary. State Medicine: Dr. John H. Rauch, Springfield, Ill., Chairman; Dr. F. E. Daniel, Austin, Tex., Secretary. Ophthalmology, Otology, Laryngology: Dr. Eugene Smith, Detroit, Mich., Chairman; Dr. J. F. Fulton, St. Paul, Minn., Secretary. Diseases of Children: Dr. W. D. Haggard, Nashville, Tenn., Chairman; Dr. W. B. Lawrence, Batesville, Ark., Secretary. Oral and Dental Surgery: Dr. John S. Marshall, Chicago, Ill., Chairman; Dr. A. E. Baldwin, Chicago, Ill., Secretary. Dr. Le Grand Atwood, Chairman of the Committee of Arrangements, has issued the following notice to Delegates: The rate given to the Delegates of the American Medical Association meeting, May 4, in St. Louis, have been fixed by the different railroad committees of the country at one and one-third fares for the round trip. Delegates must pay full fare coming, and will receive on application, from the agent at starting point, a certificate which, when signed by the Chairman of the Local Commitee on Arrangements, will entitle them to the reduced return rate. No reduced return ticket will be issued unless the purchaser can show a certificate issued by the agent from whom he purchased the going ticket and signed by the chaiJman of the Committee of Arrangements.

DR. WILLIAM H. PANCOAST.—Professor William H. Pancoast contemplates resigning his chair of anatomy in the Jefferson Medical College. After the last lecture of the sessions of 1885-6 in the amphitheatre he announced his intention of severing his connection with the college and bade the students farewell. "I have worked hard and laboriously for twenty-seven years," he said, "without any object of personal advancement in view or any desire of pelf, but because of my interest in the school and with the earnest desire of benefiting the students. I have endeavored to impart practical knowledge by connecting the clinics with my demonstrations, and, after showing you theoretically the construction of the human form, bringing before you the living patient and performing on him the operation in your presence. Afterward I examined you on what you were thus taught. I had worked hard and felt that I needed a little rest. Friends suggested that I should not abandon the work altogether while taking such rest as I needed,. and I thought favorably of this, but I feel forced to sever my connection altogether by the feeling which is growing in the school that there should be more theoretical and less practical tuition—that the clinic and the chair of anatomy should be separated."

RUSH MEDICAL COLLEGE.—The forty-third annual commencement exercises of Rush Medical College occurred on the 16th of February. One hundred and fifty-six students received the ordinary degree of Doctor of Medicine. Five gentlemen received the honorary degree, namely, Drs. D. A. Huffield and W. M. Hanna, of Illinois; Dr. Hoeber, of Hamburg, Germany; Drs. J. A. Standil and Grant, of Cairo, Egypt; and Dr. Daniel Hack Tuke, of London.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.—The thirty-fourth Annual Commencement was held in the Academy of Music, Philadelphia, March 11. The graduates, which numbered thirty-three, were from twelve States of the Union, with two from India and one from Russia. Among those present was Pundita Ramabat, a distinguished Brahmin lady, and daughter of the famous pundit of Poona, Bombay Presidency, India. She came to witness the graduation of her relative, Mrs. Anandibai Joshee.

HOWARD UNIVERSITY.—The commencement exercises of the Medical Department of the Howard University, of Washington, were held on March 10. Twenty physicians and three dentists were graduated.

THE FIFTH COURSE OF THE CARTWRIGHT LECTURES of the Alumni Association of the College of Physicians and Surgeons of New York were delivered by William Osler, M.D., Professor of Clinical Medicine at the University of Pennsylvania (Gulstonian Lecturer, London, 1885), at the hall of the Young Men's Christian Association in this city, on the 23d, 27th, and 30th of March, the general subject being: "Certain Problems in the Physiology of the Blood."

HEALTH OFFICER OF THE PORT OF NEW YORK.—Dr. Charles H. Phelps, of this city, has been nominated for this position by Governor Hill. At the same time the Governor sent in the names of three gentlemen for Quarantine Commissioners, one of whom is Dr. J. H. Douglas, widely known by reason of his connection with the case of General Grant. These are all excellent nominations; but on account of the present aspect of political affairs in the State Senate, it seems probable that they will not be confirmed.

UNIVERSITY OF BUFFALO.—At a meeting of the Council held March 8, it was decided to establish a College of Pharmacy in connection with the Medical Department.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—At a stated meeting held March 22, Dr. L. D. Bulkley read a paper on "The Relations Between Diseases of the Skin and Disorders of Other Organs," and Dr. Stephen Smith one on "The Effects of High Temperature on the Public Health of the City and the Measures for Their Prevention." The latter was principally devoted to a plea for shade-trees in the streets, and at its conclusion Dr. Smith read the draft of a bill for presentation to the Legislature entitled: "An Act to Secure the Increase and Protection of Shade-Trees in the Streets, Avenues, and Public Squares and Spaces in the City of New York." After amendment, so that it should include a provision for an additional water-supply for the purpose of flushing the streets, it was referred to the Committee on Hygiene with power to act for the Society in endorsing the proposed measure.

TAKING IN THE UNDERTAKERS—Toronto, March 25.—A clever swindle has been perpetrated on the undertakers of this city. Recently a woman dressed in mourning called upon each of them and ordered a coffin for a stranger from New York, who, she said, had died at her house at Mimico, seven miles from here. She said she had forgotten her purse, but wished to telegraph to the friends of the deceased if she could be supplied with enough money to pay for the telegram. Each undertaker, believing that he had procured work that would pay well, supplied her with money, some with $5 and others with $10. The following day, when each drove out to measure the corpse, he found that he had been swindled.

MEDICAL SOCIETY OF SOUTH CAROLINA.—In the list of officers of this Society published in the March number of the JOURNAL the Librarian should have been given as Dr. Walter P. Porcher, who was elected to the position two years ago, and reelected at the anniversary meeting in December last.

MEDICAL COLLEGES AND STUDENTS IN THE UNITED STATES.—From the carefully prepared and excellent report of the Illinois State Board of

Health for 1885 it is learned that, at the present time, there are in existence in the United States 116 medical diploma-granting institutions, of which 89 are regular, 13 homœopathic, 11 eclectic, 1 physio-medical, and 2 miscellaneous. There are are 4 of the 89 regular and 1 of the 13 homœopathic institutions for women only. Besides these, there are 42 colleges open to both sexes. For colored students only there are 3 Colleges; one is open to all—"without distinction of sex or race." The number of medical colleges has not increased during the past year. While there are 2 more regular schools than the year before, there is 1 less eclectic and 1 less physio-medical. The number of medical students and graduates decreased, there having been 953 less students and 278 less graduates during the session of 1884-5 than during that of 1883-4. While in the session of 1881-2 the total number of matriculates was 12,325 and of graduates, 4,481, in the session of 1884-5 their numbers were respectively 11,060 and 3,673.

FOR SICK AND DISABLED NEWSPAPER EMPLOYEES.—Mr. Joseph Pulitzer, editor of the *World* and Representative from New York, has given his first year's salary as Congressman, $5,000, to the New York Hospital, to found a free bed for the benefit of newspaper employees.

A VIRGINIA STATE HOSPITAL CONTEMPLATED.—It is reported that efforts are being made to secure from the Virginia Legislature an appropriation of $12,000 a year for the maintenancé of a State Hospital at Richmond.

AMPUTATION OF THE HIP JOINT,—Dr Wm. A. Byrd, of Quincy, Ill., publishes in the *Weekly Medical Review* the report of a case of successful amputation of the hip-joint, the third amputation at this joint which he has performed within a year. It was done at St. Mary's Hospital, Quincy, and at the same institution, within two hours, Dr. Byrd performed, in addition to this operation, an amputation of the thigh and internal urethrotomy for stricture. When he left the hospital at the end of his two hours' visit, he says all three patients were properly dressed and in bed, and the instruments cleaned and packed. All three made rapid recovery.

NEW YORK POST-GRADUATE SCHOOL AND HOSPITAL.—The annual dinner was held at Delmonico's, March 11, when Professor D. B. St. John Roosa presided. One hundred and fifty practitioners, it was announced, have attended the sessions of the school since May, 1885.

THE DISINFECTION OF RAGS.—Six prominent physicans of Boston, having been invited to a conference in regard to this subject by the Board of Health, made the following report:

BOSTON, March 10, 1886.

To the Board of Health of the City of Boston:

GENTLEMEN: We, the undersigned, requested by your board to express our opinion with regard to the disinfection of rags as a precaution against the possibility of the introduction of cholera into this country, respectfully submit our views as follows:

First—That the treatment of rags from non-infected ports is not necessary.

Second—That from endemically infected ports rags (1) be disinfected to the satisfaction of the Board of Health before embarkation; or (2) disinfected externally in bulk at the port of entry, and also at the mills after breaking bales; or (3) disinfecting after imbaling at the port of entry at the discretion of the Board of Health.

Third—That from epidemically infected ports the importation of rags be prohibited.

GERMAN TRANSLATION OF SAYRE'S ORTHOPÆDIC SURGERY.—A fine German translation of Professor Sayre's Lectures on Orthopædic Surgery, by Dr. F. Dumont, of Berlin, has just been received in this city.

THE AMERICAN SURGICAL ASSOCIATION will meet in Washington, D. C., on April 28, 29 and 30, and May 1.

THE FRENCH SURGICAL CONGRESS will be held in Paris from the 18th to the 24th of October.

ST. PAUL MEDICAL COLLEGE.—The graduating exercises were held March 17 in the First Baptist Church, St. Paul, Minn.

PROFESSOR HELMHOLZ.—A large gold medal, founded on the occasion of the tercentenary festival of the University of Heidelberg, for contributions to the scientific knowledge of the human eye, has been awarded to Professor Helmholz, of Berlin, for his invention of the ophthalmascope.

PENNSYLVANIA STATE SANITARY CONVENTION.—A sanitary convention, the object of which will be to afford an opportunity for an expression of opinion on matters relating to the public health and the discussion of methods looking towards an advancement in the sanitary condition of the Commonwealth, the prevention of sickness and avoidable death, and the improvement of the conditions of living, will be held in Philadelphia, under the auspices of the State Board of Health, on Wednesday, Thursday, and Friday, May 12, 13, and 14, 1886.

THE PASTEUR INSTITUTE.—The institute that is to be named after M. Pasteur will stand as a monument of his great services in the cause of suffering humanity. International in its scope—for it is reckoned that the single establishment will be able to cope with the average annual number of cases of hydrophobia—it is but right that the subscription list should be open to the world at large. The estimated cost of the edifice is 80,000 francs. Already a large sum has been contributed. Paris will add by this projected scheme one more claim to be regarded as the first city in the world.—*Lancet.*

UNIVERSITY OF COPENHAGEN.—Dr. Chr. Bohr, formerly assistant to the late Professor Panum, has, after a competitive examination, been appointed to the post of Professor of Physiology, made vacant by the lamented Professor's death.

CONGRESS OF HYDROLOGY AND CLIMATOLOGY.—An International Congress of Hydrology and Climatology has been founded by the Society of Sciences, Letters, and Arts, of Biarritz, and organized with the help of the Société d'Hydrologie Médicale de Paris, and the Société Météorologique de France. The Congress is to be opened at Biarritz on October 1, 1886, under the honorary patronage of the Minister of Commerce and the presidency of Dr. Durand-Fardel. The Congress will last eight days, from October 1, to the 8th. At the close, excursions will be made to the different thermal and sanitary stations in the Pyrenean District.

THE INTERNATIONAL CONGRESS IN AMERICA.—An influential and well-informed American correspondent writes to us: "The new codes, and homœopathic, eclectic, and other irregulars of every description, who have made a conspiracy to defeat the International Medical Congress in Washington in 1887, will be defeated. The meeting will take place and be a grand success, for the immense mass of the profession throughout the whole country still adhere to the Code of Ethics. And those few specialists and others who choose to mingle in consultation with irregular quacks of every description of course have a right to select their own companions; but they will not be allowed to occupy any official position in the Congress, neither will they have the power to prevent the success of the meeting."—*Britsh Medical Journal.*

English Medical Journals Lost.—The London journals of Saturday, March 6, for this country, were among the mail matter that went down with the ill-fated *Oregon* on the 14th. Among the theories suggested for the disaster is one by the *Bridgeport* (Conn.) *Standard*, which says, "It is a well-known fact that whales sometimes strike vessels. A huge whale has recently come ashore on the New England Coast. This whale may have struck the *Oregon*, but the blow was so severe as to give him a terrible headache, and he came ashore for medical treatment."

New York College of Pharmacy.—The 56th annual commencement of this institution was held at Steinway Hall, March 30. The graduating class numbered nearly one hundred, the largest the college has ever had, and the address was made by the Hon. John R. Brady.

Recent Deaths from Hydrophobia.—One of a number of Russian Mujiks who came to Pasteur to be treated, after being bitten by a wolf, died with symptoms of hydrophobia, March 22, and on March 30 George Neall, the keeper of the dog-pound at Newark, N. J., who was bitten by a Spitz dog in February, died of apparently the same disease.

A Large Stone.—Dr. T. R. Varick, of Jersey City, recently removed from a lad 14 years of age a urinary calculus which weighed 7℥, 4℈, and measured 6¾x5½ in. The operation was the bilateral, and the patient made a good recovery.

Death of Dr. John K. Kane.—Dr. John K. Kane, one of the leading practitioners of Delaware, died at the residence of his cousin, Colonel A. N. Martin, at Summit, N. J., on March 22, of erysipelas. He was born in Philadelphia, December 18, 1833, and was a son of the Hon. John K. Kane, for many years United States District Judge of Pennsylvania. He studied medicine at Jefferson Medical College, Philadelphia, and in Paris, and settled in Wilmington for the practice of his profession. One of his brothers was Dr. Elisha Kent Kane, the celebrated arctic explorer. Dr. John K. Kane accompanied the expedition which went to the northern seas in 1856 for the relief of his brother, and was one of the surgeons. The expedition went quite far up the coast of Greenland. His widow is the eldest daughter of the Hon. James A. Bayard, and a sister of the present Secretary of State. Personally he was a man of very attractive manners, very skillful in his profession, and greatly beloved by his friends and patients.

Death of Dr. Samuel W. Francis.—Dr. Samuel Ward Francis, an eminent physician of Newport, R. I., died March 25. Dr. Francis had made himself well known, both as a practitioner and author, during the 25 years of his professional life. He was born December 26, 1835, in this city, where his father, Dr. John W. Francis, was a physician of great distinction.

DEATH OF DR. MACCARTHY.—Dr. MacCarthy, the oldest British medical practitioner in Paris, died on Wednesday, the 10th inst., in the seventieth year of his age. For some months past the deceased gentleman had been in failing health, and at the beginning of last week he was seized with cerebral hemorrhage, which resulted in hemiplegia, from which he never rallied. Dr. MacCarthy was an Irishman by birth, and came over to Paris as a lad. He studied medicine in this country, and took his degree at the Faculty of Paris in 1844. Some twenty years ago, with Sir Joseph Olliffe and Dr. Campbell, Dr. Mac Carthy had the leading English practice in Paris. He also had a very good French connection, and was much esteemed by all who knew him.—*Paris Correspondence of the Lancet.*

DEATH OF MR. COOPER FORSTER.—Mr. Cooper Forster, last year President of the Royal College of Surgeons, died in London on the 2d of March, in the 63d year of his age.

DEATH OF THE WIFE OF DR. J. P. THOMAS—The death of this esteemed lady occurred on the 21st of February, at the family residence in Christian County, Kentucky, and was very sudden, although she had been a great sufferer for the past three years. She was born February 1, 1837, and, having lived in the neighborhood all her life, was widely known and dearly-beloved for her noble Christian character and innumerable acts of charity, while, as the wife of a physician engaged in an extensive and laborious practice, she was truly a helpmate in the broadest sense of the term.

OLD AUNT MARY LEE—Lexington, Ky., March 24.—Last night the most widely known colored woman in the county, "Aunt Mary" Lee, aged 113 years, died at her home in East Short Street. She was brought to this county when Kentucky was a part of the State of Virginia by her master, Major John Lee, who lived for a number of years on the old Frankfort pike, near this city. During the cholera epidemic here in 1833 she was set free by her young mistress, Mrs. Polly Price, and she has lived in Lexington ever since its settlement. Only a few days before her death gave a very graphic description of the old fort and spring and the wonderful growth of the city. She leaves a son, Stephen, aged about 65 years, and a large number of grand and great-grand children

[It would be interesting to learn who keeps the record of the births of all these venerable negroes, who are from time to time reported as dying at such fabulous ages.]

THE LATE DR. GASPAR GRISWOLD.—At the opening of the meeting of the New York Medical Association, held March 8, the President read the following communication:

Gentlemen of the New York County Medical Association:

Since our last meeting we have parted with one of our most brilliant and esteemed members, Gaspar Griswold, M.D., F.R.C.S., who died at his residence, No. 251 Madison Avenue, on Thursday, March 4, 1886, of peritonitis. Dr. Griswold, during his short career, rapidly rose to the front ranks of the profession, and, with his pleasant social surroundings and love for his profession, had the promise of a very bright future. His cheerful, familiar countenance will be missed by many. This Association will long cherish his memory and mourn his loss.

[Signed]
CHARLES A. LEALE, M.D.,
President.

On motion of Dr. E. G. Janeway, this address was ordered to be entered on the minutes and a copy sent to the family of Dr. Griswold.

P. BRYNBERG PORTER, M.D.,
Secretary.

At a meeting of the New York Clinical Society, held March 26, 1886, the following resolutions were adopted:

Whereas, One of our members, *Gaspar Griswold, M.D., M.R.C.S.*, has been suddenly removed by death.

Resolved, That we, the members of the New York Clinical Society, hereby express our sense of the great loss the society has sustained, in common with the medical profession in general, in Dr. Griswold's death. During the several years of his membership in our society the part which he took in its proceedings was of value to all his fellow members, whether in the form of papers read by him, of oral contributions from his clinical experience, or of remarks in the discussions. To a frankness and pointedness of statement that always commanded attention, he added a deference to the opinions of others that endeared him to all of us. By his early death we have been deprived of an esteemed and most valuable member.

Resolved, That we, as a body, respectfully tender to the family of our deceased associate this expression of our sympathy in their bereavement.

Resolved, That these resolutions be entered upon the secretary's minutes, on a page to be set apart for that purpose; that a copy of them be sent to the family of the deceased; and that they be furnished to the medical journals of this city for publication.

[Signed]
F. P. FOSTER, M.D.
W. H. KATZENBACH, M.D. } *Committee.*
L. B. BANGS. M.D.

A. A. SMITH, M.D.,
President.

B. F. CURTIS, M.D.,
Secretary.

EDITORIALS.

THE DEATH OF DR. FLINT.—The greatest master in Israel has fallen Words can inadequately express the profound sense of bereavement which today pervades all ranks of the profession over the whole country and everywhere throughout the world where scientific medicine is known.

More eloquent voices will pronounce fitting eulogies of the illustrious departed, but this simple tribute to his noble worth cannot be withheld. As the late Dr. Gross, of Philadelphia, was universally regarded as the typical American surgeon, in the same way Dr. Flint has been rightly looked upon by all as the foremost physician of America. This was sufficiently shown by his immediate selection, without a moment's hesitation on the part of any one concerned, for the position of President of the International Congress of 1887, and by the supreme satisfaction with which that selection was received throughout the entire profession. Is it saying too much to assert that he was one of the great physicians of all time? It is true that he did not rank with many others as an original discoverer, but seldom, indeed, has there lived in any land a man who has attained such preëminent distinction and won such unfading laurels in the threefold capacity of practitioner, author, and teacher.

Fortunate, indeed, have those been whose happy privilege it was to listen personally to the rare charm of his didactic and clinical instructions, and, now that the great teacher is gone, those polished but weighty utterances will be recalled with a vividness which could have been brought about in no other way. It was this thought which pervaded the eloquent remarks of Dr. Dalton on the touching occasion of the Bellevue College Commencement, when the dead master still lay unburied in his coffin.

"I am sure there is but one thought in the minds of all who are here in this room this evening," he said. "A familiar and venerated presence no longer meets your eyes from its accustomed place. A voice to which you have listened, always with delight and profit, for so many years, is suddenly quiet on this returning anniversary. And yet, I doubt whether our departed friend and counsellor ever wielded over his colleagues or his class such an overwhelming influence as he does at this moment. He speaks to you to-night, not with the imperfect utterance of an occasional discourse or a momentary topic, but with the complete and unmistakeable language of a lifetime. He stands before you now in his entire character, ennobled by the record of his qualities and deeds, as the acknowledged representative of all that is best in the study, the teaching, and the practice of medical science and art. It was the universal verdict, from which I have never heard a dissenting voice, that among all the eminent men of the profession in this wide country, his was the one name which would be inevitably selected as the first. His single-minded devotion, untiring industry, and indomitable strength of purpose raised him long ago to the position which he held to the last day of his life. And now, after conducting your studies through the session just closed, he has graduated before you, he has taken his final and highest degree, conferred by the Power that is Supreme over us all; and the parchment of his biography now bears the stamp of Emeritus. For you, gentlemen of the medical profession, I am sure that Dr. Flint's teachings are far from being ended. I can wish you nothing better than that you carry them with you throughout the future, and that you never cease to remember his instructions and to emulate his life."

In regard to Dr. Flint's future fame, it will probably be associated more intimately with the vast work which he accomplished in the field of physical diagnosis than with that in any other one department. Thus, as a result of his remarkable paper on the "Analytical Study of Auscultation and Percussion, with Reference to the Distinctive Characteristics of the Pulmonary Signs," read at the meeting of the International Medical Congress in London, in 1881, a committee was appointed, with Dr. Flint as chairman, to report at the meeting of the Congress in Copenhagen, in 1884, on a "Uniform Nomenclature of Auscultatory Sounds in the Diagnosis of Diseases of the Chest." But he was by no means a mere specialist, but equally accomplished in all the branches of knowledge that go to thoroughly equip the general practitioner of medicine.

There was one point which he always inculcated in his teachings and carried out in his own practice, for which he will long be remembered with heartfelt gratitude by thousands of physicians with whom he came in contact, as well as patients. This was his happy faculty, and it was one which he assidiously cultivated, of always "looking on the bright side of things." His entrance into a sick chamber was like that of a sunbeam, and it must, indeed, have been a desperate case in which he could not point out some source of comfort for the future. His was emphatically a ministry of hope among the suffering, and this was one reason, aside from his special skill, why he was so incomparable a consultant. The moral effect of hopefulness is something which cannot be too highly appreciated by the profession, and there can be no doubt that many a patient, by reason of the courage infused by the genial aspect and cheering words of Dr. Flint, has been enabled to live in comparative comfort for years, who would have quickly succumbed before the combined force of disease and his own gloomy forebodings had it been his lot to listen to the melancholy prognostications with which many physicians are too apt to depress their patients. This characteristic of his is strikingly shown in his admirable paper on "The Elements of Prognosis in Bright's Disease," republished in the February issue of the JOURNAL, which was the last paper he ever read in public. In commenting on this the *Lancet*, in a leading article in a recent number, said: "Dr. Austin Flint may be called the Watson of the United States. A very admirable specimen of his writing and thinking as a practical physician is a paper read by him before the York County Medical Association on November 16, and contained in the *Journal of the American Medical Association* for January 9, and entitled 'Elements of Prognosis in Bright's Disease.' The general purport of that paper is to encourage a more hopeful, or, at any rate, a less gloomy view of the disease than is commonly entertained either by the public or the profession. * * * We give prominence to this paper, not only for its own sake, but as a good specimen of the quality of looking for the best side of bad facts, which is one eminently for cultivation by medical men, and which has been rather discouraged since pathological processes engaged so much the study of physicians, apart from the time they have occupied and the circumstances favoring or retarding them."

Dr. Flint's untiring devotion to work might well have been envied by many a younger man. In addition to the labor of hospital and private practice, to say nothing of the preparation of new editions of his great works on practice and physical exploration of the chest, during the past two years he wrote a large number of papers, which, like the one just referred to, are of the highest ability, and written with a terseness of style which is equalled by no living medical writer. He was not one of those willing to rest content with ancient traditions, never questioning or progressing, but was ever in the fore-front of advanced scientific thought, as is testified by his papers on the parasitic origin of tubercolosis and cholera, read before the County Medical Association, and his argument in favor of the specific nature of pneumonia at the opening of the discussion on this disease which constituted so important a feature of the recent meeting of the State Association.

To these two Societies, in the organization of which he was one of the most active movers, Dr. Flint was ever devoted with a warmth of feeling that made every member of them recognize that he had in him a loyal and affectionate brother; and before one or the other of them every paper written by him of late, with scarcely an exception, was read. He was rarely ever known to be absent from the gatherings of the District Branch of the State Association, or the County Association, and when, the month before his death, he was unable, by reason of pressing duties, to be present at the meeting of the latter, he sent, in token of his goodwill and kindly fellowship, a "loving cup," which was passed from lip to lip with many a pleasant thought of the genial donor. In his death, these bodies lose, indeed, a tower of strength.

In this fragmentary notice little has been said of his qualities as a man: his true nobility of character, his thorough conscientiousness, his large heart, his generous sympathy, his gentleness, his urbane and winning manners. Alas, those of us who were fortunate enough to be in intimate association with him can hardly yet begin to realize the gap that has been made in our lives by his departure. To the readers of this journal it may possibly be of interest to know that after the death of the lamented Professor Gaillard, it was Dr. Flint who first suggested the name of the present editor for the position thus left vacant.

While Dr. Flint was comparatively well advanced in years, so active and industrious was he, so full of enthusiasm and energy, that it never occurred to any one to associate with him the idea of age; but, as he himself ardently desired to be spared a lingering illness, it was perhaps better that he should be thus taken while in the full enjoyment of his matured powers, with his eye not dim, and his natural force unabated. Thus will he ever live in the memories of those who knew him as a King among men.

What effect Dr. Flint's death will have upon the International Medical Congress of 1887 remains to be seen. In the presence of death, petty jealousies, harsh judgments, and unkindly feelings ought surely to be laid aside; and may it not be hoped that the hallowed influences proceeding from this newly opened grave may lead to such moderation and conciliatory sentiments as will tend to render the meeting over which the revered master hoped it would be the crowning glory of his life to preside, in very truth a memorial worthy of his illustrious name?

In recognition of the rare achievements of such a life, it might well be inscribed upon his tomb,

> Exegi monumentum ære perennius,
> Regalique situ pyramidum altius;
> Quod non imber edax, non Aquilo impotens
> Possit diruere, aut innumerabilis
> Annorum series, et fuga temporum.

PASTEUR'S PREVENTIVE TREATMENT OF RABIES.—The most complete and satisfactory exposition of M. Pasteur's method for the prevention of rabies which we have as yet had in this country, was given by Dr. Biggs, of the Carnegie Laboratory, in the paper read by him at the last meeting of the New York County Medical Association, which will be found in the "Proceedings of Societies" in our present issue. In this he frankly states, however, that it must be admitted that in his last communication, as well as some of his other more recent communications, upon rabies, Pasteur has not discussed the questions at issue so much in detail as could be desired, nor has he given definitely the number or character of the experiments upon which his conclusions and the general principles drawn from them are based.

In discussing the etiology of the disease, Dr. Biggs expressed his absolute conviction of its specific origin, a conclusion which perhaps few at the present day will be likely to dispute—and, after presenting the various arguments in favor of this view, he remarked that a wound or injury produced by the teeth of a non-rabid dog, one whose saliva did not contain the living organism which is its essential cause, could no more bring about the specific disease which we call rabies than could the wound made by a sterilized knife.

In confirmation of the very plausible and ingenious solution which Pasteur gives, and the experimental test of which Dr. Biggs details in his paper, of the serious question as to whether the death of the little girl which occurred from hydrophobia shortly after the completion of the process of inoculation was due to the inoculations themselves or to infection by the animal which bit her, it may be stated that, according to the latest accounts, there have now been inoculated no less than four hundred and fifty patients, ranging in age from twenty years to thirty-two months. If the process were not innocuous, death, or, at all events, serious symptoms of disease, would certainly have occurred in others among such a large number of individuals. As to the recent death of the wolf-bitten Russian from Smolensk, as far as can be made out at present, this appears to have no bearing on the matter. It seems altogether likely that a panic existed among these ignorant Mujiks, who found themselves thus hurried off from their homes to undertake a long journey to avoid impending death, and that this had no small share in the fatal result in this case. But even if it was a genuine case of rabies, it is not known here how long a time elapsed between the bite and the commencement of the inoculations in Paris.

In discussing the conclusions to be drawn as to the accuracy of Pasteur's observations, upon rabies and the efficacy of his method for its prevention, Dr. Biggs said that as to the first human subject inoculated, the boy Joseph Meister, he could not but think, from the account given, that the dog which bit the lad was not affected with genuine rabies, and subsequent events had also shown that the same was probably true of the dog which bit the Newark children. But however that may be, it seems to him that the strongest evidence of the efficacy of Pasteur's method rests, not upon any results thus far obtained in the inoculation of human beings, but upon the results of his experience on dogs. If he has been able to not only render fifty dogs refractory to rabies, without a single failure, but also has succeeded in preventing the development of the disease in a large number of dogs after they had been bitten—both of which Pasteur asserts positively that he has accomplished—then the question as to the prevention of the disease in human beings is only as to the method of application. Dogs are far more susceptible and liable to the malady than human beings, and the character of the disease being evidently the same in both man and dogs, if dogs can be brought into a state refractory to the disease, certainly it is not assuming too much to conclude that the same is true of the human being.

But, throwing aside the evidence which we now have at hand as to the efficacy of Pasteur's method—and he thinks it must be said that it was not altogether satisfactory in character—Dr. Biggs goes on to consider the probability of the correctness of these last observations from the light thrown upon the subject by the *savant's* former magnificent scientific work.

Every great discovery in science has met with skepticism, opposition, and ridicule. Pasteur's prophylactic method rests purely upon empirical grounds, and can only be fairly judged by the practical results obtained by its use. So far as we know at present, he says, these have sustained the claims of its learned discoverer, and until they are refuted by further observation he believes it is unjust to characterize the work of Pasteur, as has recently been done, as being founded on untrustworthy experiments and unsound reasoning, deserving to be rejected and condemned in the interests of humanity as well as science.

In the discussion which followed the reading of Dr. Biggs' paper, Dr. A.

Flint, Jr., said he was opposed to accepting the statements of Pasteur, on the ground that his results had not been subjected, as the work of all discoverers in physiological science are required to be, to the test of control experiments, such as injecting under the dura mater of rabbits bouillon without the addition of spinal marrow, etc. According to the older ideas, rabies was propagated only by means of the saliva of certain animals; but in his preventive innoculations Pasteur long since abandoned the use of saliva, and resorted to a method which was entirely artificial. It therefore became a vital question to determine whether these rabbits, in which injections of virus were made under the dura mater after trephining, were actually affected with rabies or not, and he remarked in this connection that he did not know whether or not any one had ever given a precise description of this disease as it appeared in rabbits. Pasteur, however, stated that the rabbits were rabid, and we were called upon to accept his dictum without any evidence whatever to support it. He had himself, in connection with various physiological investigations, experimented upon a large number of rabbits, and he knew that their delicate nervous organizations were very seriously affected by operations much less serious than trephining. But if by any such means as those proposed by Pasteur a human being could be prevented from having rabies, after exposure to the risk of the disease, it made, of course, no difference whether the rabbits used in the process had rabies or not. This was the practical point; but from a theoretical standpoint the condition of the rabbits was a circumstance of great importance.

With regard to dogs, Dr. Flint inquired if there was a single authenticated case of a dog contracting genuine rabies by inoculation from Pasteur's rabid rabbits. For such an alleged fact we had only Pasteur's own statements to depend on. Nor was it absolutely certain that any dog had ever been rendered refractory to rabies by Pasteur; and it was a necessary step in the application of the method to human beings to prove that dogs which had actually been bitten by a rabid dog had been rendered refractory to the disease. It was also pertinent to inquire whether dogs and persons rendered "refractory" by the Pasteur method are in reality refractory to rabies when conveyed into the system in the ordinary way, and this question, he thought, had not as yet been answered in a sufficiently definite and satisfactory way.

Dr. E. G. Janeway said that when in Paris, in the early part of last summer, he had witnessed the process of inoculation, although it was before the method had been applied in a human subject. The keynote of the whole matter seemed to be whether these dogs had been rendered refractory to hydrophobia as conveyed in the ordinary way, and, according to the testimony of Dr. Biggs and others, he thought there could be little doubt that such was the case. Now, if they had been rendered thus refractory, he could see no objection to carrying out the same plan of inoculation in the human subject in any case where an individual had been exposed to the risk of contracting the disease, especially since the method had, at all events, already proved innocuous in more than three hundred cases. As to the spinal marrow being employed as the agent for transmitting the virus, it seemed to him entirely appropriate. The virus which was lodged in the wound made by the bite of a rabid dog, and from thence diffused throughout the system, was undoubtedly composed of living matter. While it was present in the saliva, therefore, the manifestations of the disease showed that the germ was also in the spinal cord and the medulla oblongata, or, if this was not the case, that it circulated as a specific poison in the blood, and thus acted as an irritant upon these nervous centres. In other analogous diseases the germ of the affection was found at or near the points of inflammation, and hence it seemed altogether appropriate to employ these parts for the purpose of inoculation.

In closing the discussion Dr. Biggs remarked that the answer to most of the questions which had been raised lay in the proof of the genuine nature of the disease with which Pasteur has been dealing, and this was a somewhat difficult matter to determine positively from an independent point of view. When in Paris, however, he had seen a number of cases of dogs which had all the typical symptoms of rabies contracted in the ordinary way, as these were described in the books. It was an indisputable fact that Pasteur had for years been experimenting with a disease which almost invariably in every instance runs the same course and produces the same symptoms, and the period of incubation of which is fifteen days in rabbits. If this affection was septicæmia, as had been claimed by some critics, it was an entirely new form of it. No variety of septicæmia was known which had a period of incubation in rabbits of fifteen days, and, after cultivation, of seven. In dogs the period of incubation was considerably longer than this, while in septicæmia this period was never longer than eight or nine days. Again, no other disease was known, except rabies, which produced the symptoms noted in these cases, and always resulted in death.

In regard to the suggestion of Dr. Flint that, in connection with the innoculations, control experiments ought to be made, such as the injection of bouillon without any portions of spinal marrow being added, he said that while this particular procedure had not been tried, so far as he was aware, it was a fact that inoculations had been made subcutaneously and into the veins, instead of under the dura mater after trephining, and the only difference that had been noted in the result was that the period of incubation was longer under these circumstances. The reason why Pasteur had adopted the method which he now employed was because he had found, after many experiments, that with it the period of incubation was shorter, and that the process was more certain than when any other was used.

As to the manifestations of rabies in rabbits, Pasteur distinctly declared that the disease had no pathognomonic manifestations in these animals. In them it was analogous to many forms of septicæmia, and it was on this account that he (Pasteur) was unwilling to accept the results of Fol's experiments which were practically based on the pathological conditions observed in rabbits after experiment. Therefore the only way to test the true nature of the disease resulting from inoculation was to inoculate dogs with the virus, and in them it had been found to manifest itself by symptoms which are believed to be unmistakably those of rabies.

As to the protection against the disease of dogs which had been bitten by other rabid dogs, Pasteur asserted positively that the most complete protection had been afforded in numerous instances. These animals were placed in cages together with dogs which were indisputably rabid, and, having been bitten by the latter, they were afterwards subjected to the prophylactic inoculations; and in not a single instance had rabies subsequently developed in them. These experiments had been repeatedly tried under the supervision of the official commission appointed to investigate the matter; and the evidence thus afforded, he thought, was of the greatest possible importance in establishing Pasteur's claim.

Dr. Joseph Holt.—It will be a source of unqualified satisfaction to our readers to learn that Dr. Holt, who, desiring to be relieved from the onerous duties devolving upon him in the position of President of the Louisiana State

Board of Health, which he has occupied with such signal ability and success, tendered the Governor his resignation on the 11th of March, has gracefully yielded to the enormous pressure brought to bear upon him, and withdrawn the same.

At a special meeting of the Board, held March 24, a letter from the Governor, desiring the withdrawal of the resignation of Dr. Holt, and resolutions from the Auxiliary Sanitary Association, Mexican and Sugar Exchanges, the New Orleans Medical and Surgical Association, and the Board of Health of Richmond, Va., making the same request, were read. In his letter Governor McEnery says: "You have discharged the functions of the Presidency of the Board with such conspicuous ability as to acquire the esteem and confidence of the members of the medical profession, of the commercial community, the representatives of foreign States and foreign shipping interests, the leading sanitarians of the United States and all the inhabitants of the region subject to danger from imported infectious and contagious diseases. By your vigilance, wisdom, and judicious firmness, you have reconciled all parties to the wholesome restrictions of quarantine, and called to the support of the quarantine system hosts of new and efficient friends. While you remain with the Board, harmony of action is guaranteed, public confidence is confirmed, apprehension as to epidemics is allayed, and the avenues of trade and travel are kept free to all ports of the country. Your resignation must, therefore, be held as a public loss."

A letter from Dr. Holt to the Governor was then read, in which, in withdrawing his resignation, he said: "Speaking for myself, and for each member of the Board, if we can prove ourselves, by further trial, fully worthy of the confidence you have so graciously declared, that alone would be reward sufficient to satisfy ambition; but, when your request that the Board, in its present cohesion, shall continue in service, is addressed on the grounds of public duty, it appeals to the same spirit of obligation which would compel us as citizens to take up arms in defense of the State."

Afterwards Dr. Holt addressed the members of the Board, saying in the course of his remarks: "This letter from the Governor of the State, the action of the various Exchanges, the New Orleans Medical and Surgical Association, the New Orleans Auxiliary Sanitary Association, and conspicuously the voice of the press, admits of but one interpretation. They are collectively an expression of the appreciation, indorsement, and acceptance of the policy and methods of the Board of Health. While addressed to myself, personally, as all official communications are, they are done so in simple recognition of myself as the executive officer and representative of the Board of Health. Having applied ourselves, for a period of two years, in the unceasing effort of advancing the health and material interests not only of the people of New Orleans and of Louisiana, but of the Mississippi Valley, whose janitor we are, it was proper that at this period of our official life—indeed a sense of self-regard demanded—that we should lay down the burden of public duty. So long as the action presented itself to us as one of simple choice, it was natural and right that we should have selected the line of our convenience and advantage. But, having taken the first step in the way of personal interests, we have found ourselves in these appeals confronted by a demand to again take up and assume the burden of responsibility. The whole matter now presents itself to us as one of convenience on the one hand and of public duty on the other. I only voice the sentiment of every member of this Board in declaring our willingness to accept the higher duty, which demands the continuance of labor in the public service, and of our readiness to continue our efforts, regardless of the possibility of unexpected obstacles to be encountered or of disasters beyond human control. In resuming our official career, we shall do so greatly encouraged, and the burden made lighter by the appreciation and kindness of our fellow-citizens.

Finally, the following resolutions were unanimously adopted by the Board:

> *Resolved*, That the members of the Board of Health, recognizing the valuable services rendered by Dr. Joseph Holt as its President during the past two years, observe with satisfaction and great pleasure that his Excellency the Governor of the State, and the several industrial and commercial Exchanges of this city, as well as the New Orleans Medical and Surgical Association, have joined them in urging Dr. Holt to withdraw his letter of resignation.
>
> *Resolved*, As Dr. Holt has yielded to these earnest appeals thus made to him, the Board of Health contemplates with supreme satisfaction the withdrawal of his resignation; and its members pledge themselves to a continuance of their ardent support in all the measures looking to the preservation of public health inaugurated during his administration and so ably and firmly carried out by him.

On the same date the Board of Directors of the Mexican, Central American, and South American Commercial Exchange, unaware of Dr. Holt's contemplated withdrawal of his resignation, met in New Orleans and passed a resolution urging him to adopt this course. They also unanimously adopted the following set of resolutions:

> *Whereas*, the port of New Orleans, as an important gateway of commerce, is one of the points threatened by all epidemics coming from abroad, and especially by yellow fever through its domicile in countries to the South;
>
> *Whereas*, the geographical position of New Orleans in relation to the Mississippi Valley is such as to render this city the main point of defense of the whole valley from imported pestilence, and especially yellow fever; and
>
> *Whereas*, the President of the Board of Health of the State of Louisiana is thus rendered the most important officer in the valley in connection with the prevention of epidemics;
>
> *Resolved*, That the President of the United States be most earnestly requested to appoint Dr. Jos. Holt, President of the State Board of Health, a member of the proposed yellow fever commission, so soon as that commission shall be authorized by law.
>
> *Resolved*, That a copy of this resolution, signed by the President and Secretary of this Exchange be forwarded to the President of the United States.
>
> *Resolved*, That a copy be also sent to each of the Senators and Representatives of Louisiana in the Congress of the United States.

The way in which the matter is regarded by the public press is shown by the following editorial in the New Orleans *Times-Democrat*, of March 25: The fact that Dr. Joseph Holt has, at the earnest request of Gov. McEnery and in response to a very pronounced public sentiment, consented to withdraw his resignation as president of the State Board of Health and to continue to give the State the benefit of his valuable services is matter for general congratulation. Everybody who knows anything about the onerous duties devolving upon the president of the Board of Health of this State will appreciate the very great personal sacrifice made by Dr. Holt in consenting to serve for another term—a sacrifice of personal comfort and ease and of money, for no physician can conscientiously discharge the duties of the office without seriously neglecting his private practice. In view of these facts, we are certain that Dr. Holt will have in the future, as in the past, the cordial co-operation of the press of the city and State, and of the people of Louisiana at large. The Boards of Health of adjacent States and of the whole country have expressed their high appreciation of Dr. Holt's services and of the character and work of our State Board, and we may confidently look forward to a continuation of the friendly relations which now exist and which must result in achieving great good not only to Louisiana but to the country at large and to the science of sanitation. The progressive methods adopted by our Board of Health have attracted the attention of sanitarians and sanitary associations throughout the world, and the practically unanimous wish of our people that Dr. Holt shall retain his position and continue to carry out these methods amount to a public and emphatic indorsement of them.

A HAPPY COMPARISON.—One of the most felicitous similes met with in a medical discourse for a long time past will be found in Mr. J. Bland Sutton's lecture on the inflammatory process delivered in his course on "Evolution in Pathology," at the Royal College of Surgeons, and reprinted in the present number of the JOURNAL, in which he likens the zoological history of inflammation to a battle. The leucocytes are the defending army; the roads and lines of communication, the bloodvessels. Every composite organism maintains a certain proportion of leucocytes as representing its standing army. When the body is invaded by bacilli, bacteria, or micrococci, chemical or other irritants, information of the aggression is telegraphed by means of the vaso-motor nerves, and leucocytes rush to the attack; reinforcements and recruits are quickly formed to increase the standing army, sometimes twenty, thirty, or more times the normal standard. In the conflict cells die and often are eaten up by their companions; frequently the slaughter is so great that the tissues become burdened by the dead bodies of the soldiers in the form of pus, the activity of the cell being testified by the fact that its protoplasm often contains bacilli, etc., in various stages of destruction. These dead cells, like the corpses of soldiers who fall in battle, later become hurtful to the organism they in their life-time were anxious to protect from harm, for they serve as breeding-grounds wherein the bacteria may germinate, and, like a pestilence and scourge, devastate the individual.

This is a truthful and stirring picture of what, according to the most approved modern pathological teaching, takes place during an inflammatory process, and the learned lecturer is to be congratulated on his graphic delineation of the story.

HOMŒOPATHY IN CHOLERA.—An esteemed correspondent has sent us the following newspaper clipping, with the request to inform him, if possible, how to get at the actual facts in the case, so that an intelligent opinion may be formed in regard to the claim asserted in it.

> We publish elsewhere a very interesting article from the *Southern Journal of Homœopathy* on the subject of the use of homœopathic medicines in the late cholera epidemic in Naples, and the results accomplished there by it in saving lives. The Naples epidemic will long be remembered as one of the most fatal ever known, the mortality exceeding 50 per cent. of the twelve thousand odd people attacked. The work of the old school physicians seems to be productive of no results, their remedies to fail completely, and, in many cases, physicians of good repute lost 80 per cent., or four cases out of five. In the midst of this awful massacre the results achieved by the homœopathic physicians seem truly phenomenal. The remedy used by them was tried as a preventive on over 2,000 families without having a single case of cholera among them. Used as a curative it was successful in all except the very last stage of the disease, and even then a large majority of the cases were cured. The homœopathic physicians suffered this inconvenience in the Naples epidemic, that they had very few cases of cholera to treat, owing to the free use of their remedy as a prophylactic. In other words, their ordinary patients never had the disease, because they took the ordinary homœopathic remedies to prevent it. Of those cases they treated, only three, or barely 4 per cent. died, and these owed their death to exposure. Had all the people attacked by the cholera in Naples been treated by the homœopathic methods, these 4,904 lives would, it is claimed, have been

saved, even if the least favorable results had been accomplished; while if the best results had obtained (the losing of 1 per cent.) there would have been a loss of about 113, or a saving of 5,929 lives.

These are startling statements. They deserve the attention of all. If they are erroneous, the other physicians owe it to themselves to contradict the statistics given by the homœopathists, otherwise we may expect the world to adopt homœopathic treatment in cholera epidemics.

This is the first notice of the special success of homœopathic practioners during the cholera epidemic at Naples which the editor of this journal has seen; but the assertions made in it are of so extraordinary a nature that there is little question that they may safely be set down as "made out of the whole cloth." For one thing, there are at present, so far as known, comparatively few homœepathists in Naples or any other of the cities of Europe. It is only under the fostering influences of the Great Republic of the West that the disciples of Hahnemann flourish like green bay trees.

At the same time, if any of our readers are in possession of definite information in regard to this epidemic throwing light upon the matter at issue, it would be esteemed a favor if they would communicate it to the JOURNAL. Our homœopathic brethren may rest assured that, if they can convince regular physicians that they have a prophylactic against cholera of such marvellous efficiency, the latter will be as eager as themselves to employ it whenever the occasion may arise. By all means, let us know the name of this wonderful remedy.

AN EXTRAORDINARY AFFAIR.—A cable dispatch announces that on March 25 a duel was fought on the storied field of Waterloo by two females, one of whom was French and the other American, while the four seconds were all American women. The origin of this remarkable contest was a dispute, strange to say, on the relative merits of French and American female physicians; and, after a stormy altercation, one of the disputants threw her glove in the other's face, in the most approved style of the *chevalier preux*. Thus have American ladies again cause to blush for the ridiculous performances of a few of their foolish countrywomen abroad, who appear to court notoriety in every conceivable way. It is still true, as in the days of Solomon, that "as a jewel of gold in a swine's snout, so is a fair woman which is without discretion." Judging, however, from the personal attractions of some, at least, of our female practitioners and students of medicine at home, it is somewhat problematical how far the term fair may be applicable to the participants in the encounter.

The weapons used on this interesting occasion were swords, and it is needless to add that, while one of the combatants was wounded, it was only "very slightly," in the arm.

AN OFFER TO NEW SUBSCRIBERS.—From now until June next, the Publisher offers a year's subscription to GAILLARD'S MEDICAL JOURNAL, and to *Daniels' Texas Journal*, the price of which is $2.00 per annum, for $5.50.

GAILLARD'S MEDICAL JOURNAL.

Vol. XLII. NEW YORK, MAY, 1886. No. 5.

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ORIGINAL ARTICLES.

ARTICLE I.

A BRIEF INQUIRY INTO THE SOURCES OF ANIMAL HEAT IN HEALTH AND DISEASE.—By L. B. Anderson, M.D., Norfolk, Va.

What seem to be accepted facts in regard to animal heat may be thus stated:

Animal heat springs from certain vital or chemical or chemico-vital changes which occur in the fluids and tissues of the body in life.

But what amount of heat is necessary to maintain life, or what demonstration of heat may be esteemed a valid expression of vitality, or what chemical or vital or chemico-vital changes are the true sources of animal heat, are problems yet unsolved by medical philosophers, as the following sketch of the literature of the subject will clearly demonstrate:

An able writer of the olden time gives a full record of the views entertained on the subject of animal heat from times immemorial to the close of the last century, a syllabus of which I append. *Callidum Innatum* is an expression borrowed from the Stoical philosophy to express the natural heat of animals, which, as connected with life, they called *βιολυχνιον*, *the lamp of life.* By the ancient philosophers, in general, heat was considered as connected with life, and as a distinguishing quality of living animals, or as the effect of divine interposition. Hippocrates entertained views on this subject not very different, and, though Galen differs somewhat from his master, no attempts were made to explain the source of animal heat till the chemical school attributed it to effervescence and fermentation, the mechanical philosophers to friction, either of the particles of blood on each other, of these on the vessels, or of the solid parts themselves. Others, again, have attributed animal heat to a combination of all these influences. They see in fermentation, friction, and the vital changes occurring in the system, the presiding genius of a supernal power, and hence they conclude:

Est Deus in nobis, agitante calescimus ipso.

Dr. Franklin supposed that caloric was combined with our aliments, and in the progress of the circulation, when these substances were decomposed, again separated from it in an active state, and thus produced animal heat. Dr. Black supposed that the air, acting on the blood, separated the inflammable principle; and since it was changed in the same way it would have been by a burning body, a similar process probably occasioned the change. Doctors Leslie and Duncan suggested the opinion that the phlogiston contained in all our fluids was separated during the circulation, and as in every other instance where this principle was separated, heat ensued. In connection with this phase of the subject it may be remarked that Martine, Hales, Hunter, Wilson, of Glasgow, and De Haen, discovered that the distribution of heat was remarkably uniform, exhibiting a change of only a degree in the most extreme, superficial, or deep-seated parts of the system.

About 106 years ago, Dr. Crawford announced a theory of animal heat which was adopted in the following year by Lavoisier, and promulgated as a new theory, only changing terms, however, and attributing to oxygen what Crawford did to phlogiston. This theory, whoever may be considered its author, became the almost universally accepted explanation of the source of animal heat for many years. Dr. Crawford, found on comparing arterial blood with water, that the heat of the former compared with the latter was as 1.03 to 1.00. He consequently suspected that the blood absorbed heat from the air in the lungs, and this idea was confirmed by the intimate connection between the increase of temperature and the frequency of respiration, as well as the extent of the respiratory organs. On pursuing the inquiry he found that the absolute heat of atmospheric air was changed by passing through the lungs; and, in general, air contained absolute heat in proportion to its adaptation for respiration. An examination of the blood in the pulmonary vein and artery disclosed the fact that the temperature of the blood in the former was higher than in the latter. The proportion of heat in venous blood, compared with that in arterial, is about 23:20. If, therefore, venous blood be converted to arterial, there will be this proportional loss of heat. It appears that the blood brings with it to the lungs such an increased capacity for containing heat that its temperature must be sustained by the absorption of oxygen. And when, from the changes produced by the circulation, this extraordinary proportion of heat is separated, as it will be by the more rapid increase of the animal processes, the superabundant heat is lost in the aqueous vapor, and in the evaporation.

MM. Lavoisier and Seguin, adopting the same idea as Crawford, simplified it to some extent by considering respiration a kind of combustion, in which pure is converted into fixed air, and the heat separated as the cause of animal heat. And to avoid the dilemma which would necessarily spring from the vastly augmented heat in the lungs, where this process is affected, over other and distant parts of the body, they allege that the rapidity of the circulation and the rapid evaporation which occurs in the lungs equalizes the temperature. The views of these distinguished authors, promulgated more than one hundred years ago, will be found, in the sequel, to embrace whatever is taught nowadays on the subject of animal heat, involving only such changes of phraseology as the present physiological and chemical nomenclature require.

From 1790 to 1800, various suggestions were offered in elucidation of this subject, with but little, if any improvement, as the following quotations will show: viz., "M. Girtannir suggested that a part of the oxygen of the atmosphere unites with the arterial blood; a part with the carbon in the carbonated hydrogenous gas which escapes from venous blood, forming carbonic acid gas; a part with the mucus which is constantly decomposing; a part with the hydrogen gas of the blood, to form water; and a part, only, remains in the blood to supply animal heat." Dr. Green supposed no oxygen was communicated to the blood, but that the change from the venous to the arterial was owing to the separation of carbon and hydrogen, with which the oxygen forms carbonic acid, and the water is expired in respiration. M. Metherci, while admitting that the combination of oxygen with the blood is one cause of animal heat, refers to muscular motion and fermentation as assistants. He supposed that respiration conducted the electrical fluid to the blood, as the air in which a person has long breathed is electrified negatively. Dr. Cullen, going back to the views of the most ancient authors on this subject, contended that the warmth of animals was connected with their life, and the effect of the principle which distinguished them as living beings. Having presented the status of the question as it was presented at the close of the last century, we proceed: Richerard, in summing up the views entertained in 1808, says: "Although the temperature of the body be generally proportioned to the extent of respiration and the quantity of blood passing under the influence of atmospheric air in a given time, *it can be greater or less according to the vital energy of the lung.* This organ should not be considered as a chemical recipient: it acts on the air, as the ancients observed, and combines with the blood by a peculiar power; if it were otherwise, no one could prevent the revival of a dead person by propelling oxygen into the lungs. The warmth of the body, independent of that of the atmosphere, is not only produced by combinations in the lungs and circulation, it is also developed in several organs where fluid or gaseous substances become solid by parting with a portion of their caloric; thus, digestion, particularly in certain animals, is an abundant source of heat. Heat arises and is disengaged in all parts the particles of which are agitated by a double motion, by means of which they are continually composed and decomposed. It is doubtless owing *to this great activity of the assimilating powers* in infancy, that a more elevated temperature is habitual. As we proceed in our investigation, we must be struck with the similiarity of views promulgated seventy-five years ago and those which have been announced within a few weeks. Magendie, when writing upon the subject of animal heat, about 1820, gives the following exhibit of the knowledge then possessed. The air, he says, in its passage through the lungs, has a temperature nearly the same as that of the body; there escapes with it from the breast a quantity of vapor, called *pulmonary transpiration*; besides its chemical composition is different from that of the inspired air. The proportion of azote is much the same, while that of oxygen and carbonic acid is quite different. At the instant the venous blood traverses the pulmonary lobules, it assumes a scarlet color, and its temperature rises about one degree. Chemists are not agreed as to how oxygen produces a change of color in the blood. Some think that the gas combines directly with the blood; others, that it carries away part of its carbon; others, that these two effects take place at the same time. Several chemists have attributed to iron the coloring of the blood. However, as the oxygen very probably combines with the carbon of the blood, and as every formation of this sort is accompanied with a considerable disengagement of caloric, it is also probable that this is the source of the greater heat of the arterial blood, for every combination of oxygen with a combustible body is accompanied with a disengagement of heat.

Up to this period it will be seen that the theories of the sources of animal heat are vital, mechanical, chemical, or chemico-vital. The views entertained three thousand years ago were not very different from those promulgated by Cullen, less than a hundred years past. We now enter a period which is freighted with new chemical, physical, and physiological facts, which have been freely called into requisition to explain this obscure problem.

For the thirty years following the time of Magendie, no one has more ably and exhaustively collected and arranged all the known facts and theories upon this subject than W. B. Carpenter, whose labors we will now freely appropriate.

That the changes which take place in venous blood in the lungs are to be explained upon principles of a purely chemical and physical nature, is evident from the fact that the same changes occur when exposed to the air out of the body. The blood, while circulating through the capillaries of the lungs, is divided into an innumerable multitude of minute streamlets, each so small as to admit of but a single layer of its corpuscles; hence we can understand how a change can be almost instantaneously effected in it when exposed to the influence of oxygen. Professor Magnus has shown that the blood possesses a remarkable absorbing power for oxygen, nitrogen, and carbonic acid gases. By freely exposing it to the latter gas, it was found that it would take up one and one-half times its bulk; and that, after all its oxygen and nitrogen had been displaced, it would absorb 16 per cent. of oxygen, and 6.3 of nitrogen. While the changes effected by the process of respiration in the blood are due to the relative proportion of gases it contains, it likewise appears that such changes are owing to a physical, and not a chemical, union; for no difference of composition has been detected between the hæmatine of venous and of arterial blood. There seems to be good reason for believing that oxygen does enter into actual combination with fibrin, and that the red corpuscles, whether chemically changed or not, are the chief carriers of the two gases to be interchanged between the pulmonary and systemic capillaries.

The temperature of the body is affected by various internal as well as external causes. The variations, attributable in part to external temperature and individual peculiarities, amounted to 5½°. The formation of carbonic acid, by the union of oxygen absorbed from the air with carbon set free from the body, is evidently the main source of the evolution of heat within the animal system. While some have supposed that the nervous system exerts a potent influence in the generation of animal heat, the experiments of Brodie, Chossat, and others, demonstrate that, while it modifies its evolution, it has but little influence over its production. The experiments of Becquerel and Breschett have demonstrated that, in those parts of plants in which the vital processes are taking place with activity, a sensible amount of caloric is being sensibly evolved. In the higher animals, as well as the lower, exercise has a considerable effect in producing an elevation of temperature. Nor is this owing to acceleration of the circulation, for the exercise of a particular muscle will increase the quantity of heat liberated from it. It may be stated, as a general proposition, applicable as well to different parts of the same individual, as to different individuals, that the development of heat is proportioned to the activity of the molecular processes which constitute the functions of nutrition, secretion, etc., increasing with their activity, and diminishing with their torpor. The maintenance of animal heat is due, also, in part, to those molecular changes which are subservient to cutaneous respiration. Various experiments have placed in a very striking view the importance of cutaneous respiration in maintaining the temperature of the body. That cutaneous transpiration is not, as was formerly supposed, an essential factor in preventing too great elevation of temperature, is evident from the fact that a rabbit which had a temperature of 100°, often being shaved and plastered, had it reduced 11° by the time the plaster was dry. Hence, in a moist state of the skin, when the molecular changes resulting from the union of oxygen with the carbon of the blood and the evolution of carbonic acid are most active, the temperature is lowest, while in a dry state of the skin, when the changes are arrested, the temperature is exalted.

While there are many changes of composition continually taking place in the human system which have their share in the production of animal heat, it is evident that they are effected, for the most part, through the agency of oxygen. Of the manner in which the surplus, over and above that which passes off in the form of carbonic acid, is employed, no precise account can be given. But there can be but little doubt that a part of it is expended in uniting with hydrogen to form the watery vapor which is exhaled from the lungs, and that another part unites with the phosphorus and sulphur which are taken in as food to be expended as sulphates and phosphates. These and other changes, in which the absorbed oxygen participates, are attended with the evolution of carbonic acid gas. Although, therefore, the chemical doctrine of calorification cannot be regarded as yet perfected as to its details, there can be no reasonable doubt that it is altogether sufficient to account for the phenomena in question.

Believing that every source of animal heat which physics, chemistry, physiology, conjecture, or surmise has suggested has been succinctly yet clearly presented in the foregoing pages, we will pause a moment to take a survey of them. Keeping in abeyance, for a time, the theory "that animal heat is the result of Divine interposition," which in various ages has found expression in *vis vitæ, vis naturæ, vis animæ*, etc, we briefly summarize the more material aspects of the question. In the early ages animal heat was supposed to result from "fermentation or effervescence;" in the Middle Ages, to phlogiston; and later and now, it is attributed to oxygen. There can be but little doubt that fermentation was used synonymously with phlogiston and phlogiston with oxygen, the first giving the effect, the two latter the supposed cause. Whenever the advocates of phlogiston and oxygen give the effect, or supposed effect, of those agents, they term it combustion. In this view of the question, we find that for many years writers on this subject have been swinging around a circle, and that we are left to-day, from this standpoint, in the status of those who lived and wrote a thousand years ago.

Then, we have the opinion that animal heat is the result of "molecular changes in the blood and tissues," embracing nutrition and disintegration, these being among the latest expressions on the subject. Turning back the pages of medical literature more than a hundred years, we find Crawford and Lavoisier giving full credit to the influence of oxygen on the blood, and affirming "that the changes thus produced in the circulation, and the rapid increase of the animal processes, give vent to such an extraordinary proportion of heat as to require the free separation of aqueous vapor and evaporation to modify and equalize it." The phrase "rapid increase of the animal processes" evidently is but a different expression for "molecular changes." The sources to which animal heat has been attributed, in whole or in part, are life, electricity, nervous influence, mechanical action, vital changes, and chemical changes.

If we conceive life to be an entity—a self-existent, independent agent—springing only from pre-existing life, we may readily perceive how it may modify organic functions, and thus influence, without generating, animal heat. If animal heat sprang from the direct agency of life, then the highest manifestation of life would be attended with the greatest development of heat. This we know is not the case; for it often happens that the highest temperature accompanies the latest and feeblest struggles of vitality. While the electrical condition of atmospheric air is modified and changed by respiration, it is evident that such change is not the source of animal heat, because the temperature is often highest after respiration has ceased. That nervous influence is not the source of animal heat is demonstrated in the exalted temperature which frequently attends a suspension of that influence by a compression of the nervous centres. If the friction of the blood corpuscles on each other, and on the tissues through which they pass, were the source of animal heat, then, when the vessels were fullest and when the propulsion of the blood were strongest, the temperature would be highest. So far from this being the case, we often see the most exalted temperature accompanying the advanced stages of low fevers, when the blood current is small and its force and friction feeble. That animal heat is not dependent on vital changes is apparent from the fact that the temperature of the body in yellow and other low and putrid fevers is often exalted in *articulo mortis*, and continues, in many instances, to rise for an hour after death, and consequently after all vital actions have ceased. De Haen says "that in putrid fevers the temperature is often increased, and that it continues to rise even to 104°." Others have noted the same facts, and have reported a temperature, in yellew fever, of 110° an hour after death. Whatever may be the influence of chemical changes in the generation of animal heat, it must be apparent that the action of oxygen on the blood, and the changes effected thereby in the rounds of the circulation, is not the sole cause, because, as above stated, the temperature is often highest after the respiration and circulation have ceased. While no *one* of the above agencies, to which the source of animal heat has been attributed, can be demonstrated to be alone responsible for its production in health, we find that all of them exert more or less influence to that end. Thus, those organic changes which occur, and occur only, under the presiding genius of Life, above and beyond all chemical power, are ever attended with the evolution of heat. Muscular contraction is accompanied with evolution of heat, in proportion to the violence of its action. Hence, the contraction of the heart and myriads of arteries all over the system must necessarily produce a considerable disengagement of caloric. We know that the change of gases to fluids, and of fluids to solids, is accompanied with evolution of heat; hence the molecular changes which occur in nutrition must be a source of considerable heat. We know that the rapid union of oxygen gas with any gas or substance with which it unites with avidity also evolves heat. The union, then, of oxygen with carbon, hydrogen, sulphur, iron, etc., in the blood, producing its oxidation, must be a source of considerable heat. These sources of heat, when in full exercise, would be sufficient to consume the living tissues, were it not for its constant elimination through the lungs, skin, and secretions, establishing and preserving an equilibrium.

There are states and conditions of the human body in which many of these factors in the production of heat in a state of health are silent, and yet the temperature is much higher than in a normal condition. It is often the case that the influence of the air upon the blood is very much obstructed in the lungs by mucus and by thickening of the vesicles from inflammation, and yet the temperature is greatly exalted. It frequently happens that in the progress of disease nutrition is suspended and molecular changes have ceased, and still the animal heat is greatly increased. If in disease the temperature is greatly exalted during a suspension of these most important factors in the production of heat in health, it becomes a question of momentous importance to the pathologist and therapeutist, what is the source of increased temperature in disease?

Health, which is the most potential manifestation of life, is a harmonious exercise of those functions whereby digestion, absorption, innervation, assimilation, nutrition, and secretion are accomplished. Disease, then, would be a suspension or perverted exercise of some or more of those processes, resulting in defective nutrition, congestion, inflammation, morbid growths, or other discordant manifestations, measured by the functional aberration or the accompanying organic derangement. Whether fever be an inexplicable entity, brooding like some *ignis fatuus* over the human race, lighting here and there upon its ingenuous victims, and consuming them with its withering heat, or only one of the manifestations of discordant vital action, we know that so soon as organic trouble is removed and perverted functions are restored, it takes its flight, and health resumes its sway. It is apparent, thus, that fever heat is not the result of an exalted, healthful activity of the vital functions, for the reason that in health, no matter how active and potential the heat-generating agencies are, they are always counterpoised by the heat-eliminating processes. The suspension of the latter, while the former were in active exercise, would result in a greatly exalted temperature. But this is impossible, for the reason that the influences which would prevent the one would also prevent the other, since both are controlled by the same laws and operated by the same forces. We must, therefore, seek the source of exalted temperature in disease in some impaired condition of the blood, functions, or tissues.

Having determined all the probable and demonstrable sources of animal heat in a state of health, it may be well to investigate the channels through which it is eliminated, and an equilibrium maintained. Transpiration through the skin is assigned as the most potential function in the elimination of animal heat. Hence, fever is supposed to result, in a great measure, from the accumulation of heat, resulting from a suspension of surface transpiration. Finding that this function is generally suspended during fever, this theory becomes, at least, plausible. But well authenticated facts confront us at the threshold, and compell us to seek other channels of elimination. For it is often the case in congestive forms of typhus fever that the skin is saturated with moisture, and still the heat is far above a normal standard. When Becquerel and Breschett applied an impervious composition to the cleanly-shaven skin of a rabbit, so as to exclude the action of the air and prevent the escape of sweat vapor,—instead of finding a greatly increased temperature and a high state of fever, they found the temperature fall from 100° to 76° in an hour. In another rabbit the temperature fell to 69½° in an hour, and in another hour it died. From these experiments we learn that animal heat is *apparently* as dependent on the skin for its source as for its elimination. And yet, as plausible as the inferences appear at first sight, they are by no means conclusive. For, while it is demonstrable that a large amount of aqueous vapor is thrown off from the skin, and a sufficiency of oxygen is absorbed in a state of health to supplement a very serious impairment of the functions of the lungs, the fall of temperature in the anointed rabbits, while accompanying a suspension of these functions, by no means demonstrates that their exercise is a source of animal heat, or an essential factor in its elimination; because, as above stated, the temperature is often very high when the functions of the skin are active, and here it falls when those functions are entirely suspended. Just at this point an important pathological inquiry arises. Apart from the heat generating and eliminating function of the skin in a state of health, we find that from it are thrown off "proteine,—compounds in a state of incipient decomposition, urea, chlorides of sodium and potassium, muriate of ammonia, acetic acid, acetate of soda." We call particular attention to the first element, viz.: "animal matter, which is apparently a proteine-compound in a state of incipient decomposition." Whatever may be the effect of the suspension of other functions of the skin on animal temperature, we can readily trace the lowering of it in the shaven and enamelled rabbit to the depression of the vital manifestations resulting from the retention of morbific matters. Ptomaines, or organic alkaloids, found in decomposing animal matter, often presenting the chemical and physiological characteristics of vegetable narcotics, retained in the blood, would overpower the nervous centres, depress the action of the heart and arteries, suspend the nutritive and eliminative functions, and thus, in a short time, produce death. From this standpoint we can explain the depression of temperature and dissolution in the rabbits far more satisfactorily than on the ground of the exclusion of oxygen, etc.

Again, the breaking down of tissues, and their change from a solid to a fluid state, the elimination of carbon and other combustible agents by the liver, the secretion of mucus and other fluids from mucous membranes, and the watery secretion from the kidneys, bearing away various organic and mineral salts and acids, are all, when in full exercise, channels through which the balance of animal temperature is maintained, in a state of health. Conversely, a suspension of all these eliminating processes should always result in a rapid and even fatal accumulation of heat. But such is by no means the case. For it is often a fact that a suspension of these functions, instead of producing heat, will, as in the case of the rabbits, result in algidity and death, and that, from the obvious reason that the overpowering effect of retained deleterious agents so overpowers the heat-producing functions as to produce general torpor, congestion, and ultimate death.

As previously stated, so long as all the functions are normally performed, it matters not what pressure is brought to bear on the system, within or without, the equilibrium between the generation and elimination of heat must be maintained. If, however, one or more of the processes, either of generation or elimination, be impaired or suspended, the balance will be lost, and algidity or heat will follow. Dr. Broadbent, in "Quain's Dictionary of Medicine," attributes fluctuations of temperature in a great measure to the influence of cerebro-spinal nerves, not governing the arteries. The nervous system thus intervenes, he says, in heat-production. Now, the functions of the nervous system are to afford sensation, motion (voluntary and organic), preside over absorption, nutrition, secretion, etc., and gives no expression of its own powers, except through the organs, tissues, and functions of animal and organic life, upon a proper performance of which it depends for its own existence and powers. Its influence, therefore, over the generation of heat in the animal economy must be secondary, and find its demonstration only in the control it exerts over the functions which generate animal heat. To arrive at a satisfactory solution of the cause of increased temperature in disease we must seek it, therefore, in other channels than those from which it springs in health.

Without pausing to discuss the cause of fevers, whether intermittent, remittent, continued, typhoid, or typhus, I assume that the train of morbid processes which generates abnormal temperature is, in the formative stages, virtually the same. No one who has suffered from the first four of the above diseases, as has the writer, could have failed to observe the striking similarity of the premonitory symptoms. The soreness in the muscles, the pains in the head, back, and limbs, the swimming in the head and vertigo, the torpor and fullness about the digestive organs, the abnormal tastes and appetites, the scanty and acrid urine, the torpor or fermentative looseness of the bowels, the irregular heat and coldness, dryness, and moisture of the skin, are so alike in all that no one can say, when they have culminated in an actual outbreak of disease, whether it will be one or another of the kindred troubles. To learn what morbid changes are progressing in this premonitory stage, we will have to appeal to our farther experience. Again and again has the writer neglected these premonitions until the vaso-motor centres ceased to influence the circulation in the secretory organs and tissues, and congestion and chill would follow. At other times he has taken a full dose of alterative and cathartic medicine, which swept from the mucous lining of the *primæ viæ* large quantities of accumulated mucus which had arrested the secretions, as well as the absorption of alimentary matters which had obstructed the channels from the liver and pancreas, thus contaminating the blood with vitiated matters, impairing all the vital functions, and overpowering the nervous centres—with the immediate effect of liberating all these pent-up viscosities, restoring the secretions, and equalizing the circulation.

When, however, these aberrations are permitted to proceed, as previously stated, congestion of some important viscus will ensue, from which reaction will follow, attended with rapid circulation, breathing, and exalted temperature. Whence arises the increased heat? Observe that the accumulation of vitiated matters in the blood has depraved all the functions, suspended the secretions, arrested tissue generation, as well as occluded the avenues of heat elimination. The impress of these morbid matters on the nervous and arterial tissues has hurried the circulation, and the oxydation of the blood is greatly enhanced. And, as the secretions from the mucous membranes, liver, kidneys, and skin are all suspended or greatly impeded, the elimination of heat is almost impossible, and were not many of the heat-producing functions also suspended the accumulation of heat would be incalculable.

Often, in the colored race, is the invasion of typhoid fever attended with such universal suspension of all the vital functions, and such sudden contamination of the blood, that the vital powers sink to the lowest point of vitality, with wild delirium, yellow conjunctivæ, panting breathing, and tumultous arterial vibrations, while the temperature is of scorching heat. If the patient survives a day or two, he shrinks away to a skeleton. The blood is thin and pale and scarcely coagulable. The source of such exalted temperature in this state requires special attention. It surely is not the exalted temperature which threatens the patient's life, but the condition from which it springs. It then becomes of momentous importance to determine that condition, because it frequently arises in the progress of other diseases, especially of yellow fever and the exanthemata. We find all the secretions suspended, such impurities as should have escaped by the liver, kidneys, skin, and mucous membranes, all are retained in the blood; this would account for the general depravity, rapid circulation, and dyscrasia of the blood. The rapidity of the circulation and respiration would indicate a voluminous absorption of oxygen and an abnormal combustion of the carbonaceous, hydrogenous, sulphurous, and other constituents of the blood, and a greatly increased evolution of heat. But in the bodies of those who die of malignant fevers we find the temperature often rising many degrees after these vital functions have ceased. This being the case, we must seek the source of heat elsewhere than in vital or chemico-vital changes. And if we can discover its source apart from these, we may rationally attribute to the same cause much of the excessive heat which is developed in the progress of fever, and from this deduce a philosophical *ars medendi.*

We are told by Selmi that in the decomposition of a human body various alkaloids, "ptomaines," are developed, presenting the chemical and physical and often the physiological properties of the most potential vegetable alkaloids. Some resemble in this respect the alkaloid strychnia, some morphia, some coneine, some veratria, etc., etc. Upon fuller investigation, Selmi, Brouardel, Boutemy, Lauret, Gautier, Sonnenschien, Quelzer, Schmiedeberg, Brieger, Ciotto, Neucki, and others, have found that these ptomaines are developed in the human body in the progress of disease, and that they resemble almost all the vegetable alkaloids, both those that are violently poisonous and those which are not. They are developed in the decomposition of albumen, peptone, casein, muscle, brain, etc. The physiological action of some of these products, especially those obtained from putrescent albuminous fluids, resemble atropine and hyosciamine, dilating the pupil and accelerating the circulation; some acting like strychnia, and others like morphia.

In the advanced stages of low fevers, and often in the early stages of violent exanthemata and typhoid fever, especially in the black race, we have a rapid perversion of all the functions, deterioration of the vital fluids, suspension of secretions, prostration of the vital powers, obscuration of the mental faculties, and emaciation and wasting of the tissues. The retained vitiated secretions from the depuratory organs are thrown back into the circulation, and soon the fluids become a mass of heterogeneous constituents, acting and reacting upon each other and the organs and tissues, until disorganization and decomposition reign supreme. The various constituents of the circulating fluid being thus thrown into a discordant mass, and all the organic laws being suspended, the laws of chemical affinity come into play, and new and strange compounds are formed by the chemical union of the constituents of the dissolved tissues. Fermentation, combustion, effervescence, the liberation of acids and alkalies, and the formation of salts, alkaloids, and other effects of putrefactive decay ensue, and heat is eliminated as from a putrescent mass of vegetation or a boiling caldron. When life is extinct, the process is continued, and heat continues to arise, as the life still reposes in the decaying mass. From this consummation of perverted functions in disorganization and death, and the continued evolution of heat after death, if we follow nature step by step into her secret workshop, we may find the key to the source of fever heat.

We have now a condition of the human system in which all manifestation of life has ceased, organic forces are no longer in operation, the circulation, respiration, and all the functions have stopped, and yet animal heat is being evolved. Go back in a case of yellow fever to a time just preceding dissolution, and you find, as the organic processes become feebler, the temperature rises. Put these two facts together, and you have a demonstration of the fact that the heat is a purely chemical result, and springs from the mixture of dissolved and discordant tissues, and the vitiated fluids of the system, wherein active chemical changes are occurring and deleterious compounds are being formed, and they dissolving and passing into other and new compounds. Go still farther back, and watch the first suspension of secretion from the mucous and glandular systems, and follow their admixture with and deterioration of the blood, and then if you could only apply your tests you would find alkaloids (ptomaines) and other vitiated products springing into existence, and with them a rise of temperature.

We conclude, therefore, that local inflammations, abnormal congestions, impaired functions, suspended secretions, disintegrating tissues, forming new and noxious combinations, under the suspension of vital laws and the operation of chemical forces, mark well the various stages of aberration from health, and the true source of febrile heat. This is often observed in the closing hours of life, when the vital laws have almost ceased to operate, and all the fluids and tissues are a prey to chemical forces. We find the temperature suddenly rising to an exalted degree, while the vitiated results of these operations pour from the bowels in horribly offensive involuntary discharges, to be speedily followed by dissolution. If, then, we meet these departures from health in their incipiency, we may maintain the supremacy of the vital forces, and prevent the operation of those chemical laws which kindle the fires of fever and menace and imperil the citadel of life.

ARTICLE II.

THE DISCUTIENT POWER OF OLEATE OF MERCURY AND MORPHIA. By JOHN HERBERT CLAIBORNE, A. M., M. D., Petersburg, Va.

I have been very much impressed during the last twelve months with the results obtained from the use of the oleate of mercury and morphia in the treatment of acute glandular inflammation and phlegmonous inflammations threatening carbuncle. I might say in carbuncle itself; for in one or two of the cases in which I resorted to its use this disease was evidently established and unmistakable. A gentleman summoned me on the first of January, suffering extremely with a circumscribed swelling, some three inches across, just below the central portion of the left occipital bone, and extending, of course, below the line of hair. It was exceedingly sensitive to the touch; hot and throbbing. His system was in sympathy with the local disorder, and he was feverish; had foul tongue, anorexia, and restlessness. He informed me, in addition, that he was just recovering from quite a bad attack of erysipelas capitis. I directed the hair to be shaven off over the whole area of the swelling, and the following to be applied every three or four hours, rubbed in as a liniment, gently, the swelling being exceedingly sensitive.

℞.

Oleate mercury and morphiæ, - - - - - ℥ss

(20 per cent. each.)

In the meantime I directed a mercurial laxative and chloral hydrate at night, 30 grains, or sufficient to secure rest; and a glass of bitter water every morning *pro re nata*. As the subject was a bon-vivant, I did not restrain his diet very strictly; but allowed full rations of plain but wholesome food. He suffered but little more pain; and in the course of a week the swelling had become very circumscribed, and a small portion of dead cellular tissue was removed through a natural opening in the centre of the carbuncle. Recovery was rapid and complete. How does this compare with the ordinary course and result of treatment of a carbuncle, even small, on the back of the head, and that, too, in a person of sixty years of age—a man somewhat crippled in constitution by high living and self-indulgence? No cutting, no carbolic acid, no caustic potash! And a less painful course and more rapid termination of the disease!

Again: In October last a young gentleman, about twenty-three years old, called on me with chancroid on the glans, of about a month's duration. He had in addition, a bubo in each groin as large as an egg; hard, hot, and red, causing him great inconvenience, and great pain in getting about his business. (He was a retail merchant with an active trade.) To make it worse, he informed me that he was going to be married in three months, and that the affair could not be postponed any longer without exposure and a confession on his part, which he was extremely unwilling to make. He was of perfect physique; had never consulted a physician before in his life, but had been under the treatment of an apothecary for the present malady. He had become quite pallid; had emaciated a good deal; had night-sweats, and, with physical pain and mental worry combined, was a most uncomfortable and unpromising patient. He asked me if I could promise to fit him for the consummation of his marriage in three months. I told him I could promise him nothing, of course, but he concluded he "would try a doctor anyhow, for the first time in his life."

I directed him to dress the chancroid daily with iodoform, to go to bed, poultice the buboes for twenty-four hours in order to allay or remove the erythisim, and to rub gently into them after that, and thrice daily, the 20-per-cent. liniment of oleate mercury and morphia, and to have 10 grains of iodide of potash and one-twelfth grain bichloride mercury ter die in syrup. sarsaparillæ comp. and tinct. gentian.

[℞

Potass. iodidi,	ʒiv
Hyd. bichlorid.,	grs. iss
Tinct. gentian. comp.,	ʒviii
Syrupi sarsaparillæ c. qs. ft.	℥iii

M. Dose—Teaspoonful in a wineglass of water ter die.]

In one week the chancroid was nearly healed, the buboes had lost their irritability. All local signs of inflammation, except a little eruption from the liniment, had gone, and the improvement was altogether so marked that the young scapegrace took courage, persevered in the general and local treatment, and in a month was at his business, while in another he was married. The buboes of course never came to suppuration.

If any one should query why, with only a *chancroid*, I placed this young man on the "mixed treatment" of potash and mercury, I reply that, first, I know of few remedies which, combined with tinct. gentian, are better suited for a tonic for a person in the condition of my patient than the bichloride mercury and iodide potassium. Second, if, as a rule, the chancroid is not followed by constitutional symptoms of syphilis, yet sometimes we either make a mistake in our diagnosis or the chancroid makes a mistake in its nature, and some very curious secondary and tertiary lesion appear on time.

In adenitis of children, acute or chronic, the result of local irritation, the sequelæ of scarlatina, or the concomitant of diphtheria, I know of no remedy that promises so much, and that has achieved such happy results in my practice.

January 20th.—A. B., baby, twelve months of age, ordinarily healthy, but from exposure in a cold draft was taken with sore throat (no diphtheria) and in two days the glands on the left side, submaxillary and parotid, were largely swollen, tense and reddened, whilst any motion of the child produced the most acute suffering. There was great constitutional sympathy, high fever and twitchings, foreboding convulsions.

First, apply a soft warm poultice of powdered slippery-elm for six hours, and then rub the swollen glands gently once in six hours with solution of oleate of mercury and morphia, 10 per cent. of the former and 5 per cent. of the latter. Open bowels with mercurial cathartic, and give sedative and febrifuge mixture of liq. ammoniæ acetat., vinum ipecacuanhæ and tinct. aconite.

[℞

Liq. ammon. acetat., - - - - - -	℥ii
Vini ipecacuanhæ, - - - - - -	ʒi
Tinct. aconit. rad., - - - - - - -	gtts. iv
Syrupi limonis, - - - - - - -	ʒiii

M. Sig.—Dose, teaspoonful every 2 hours.—J. H. C.]

For two days the child was ill, and I would have compromised on life, and a pretty full suppuration of the submaxillary; but on the third day the swelling commenced to subside, the constitutional symptoms abated, *pari passu,* and in a word the child was well. No abscess and no chronic enlargement or induration of glands.

January 4th.—C. S., age 6; girl; diphtheria of two days' standing. (Note: other cases in house, all bad.) This girl's throat, her fauces, and uvula and posterior nares, all seemed lined or plugged as if with a dirty blanket. Voice almost suppressed and swallowing very difficult. Constitutional reaction moderate; did not take temperature. Her throat in front, and as far back as the ear, was swollen out on a level with the face, white and doughy; and the whole subintegumentary tissue injected. Ordered friction every four hours with 20-per-cent. solution oleate mercury, and internally the chloride of mercury and arsenic, with iron, every three hours. One hour and a half after medicine a tablespoonful of whiskey in two ounces of milk. She had gotten a mercurial purge before I saw her.

[℞

Tinct. ferri chlorid.,	ʒii
Liq. arsenic chlorid.,	gtts. xii
Hyd. bichlorid.,	gr. ¼
Syrupi aurantii,	℥i
Aquæ cinnamom,	℥i
Aq. fontis,	gs. ℥

M. Dose.—Tablespoonful every three or four hours.]

This case, which was most unpromising, was dismissed in a week convalescent. And so I could transcribe from my clinical register case after case illustrating the same results. But enough. If I have effectually called the attention of the profession to this most useful discutient and alterative I shall be satisfied.

ARTICLE III.

THYROID LUXATION OF THE HIP-JOINT, REDUCED BY MANIPULATION.

By GEORGE S. KING, M.D., Washington, D. C.

Dabney Minor, æt. fifty, colored, large and muscular, while working on Boundary Street, Washington, which was being graded, was injured April 7, by a dirtcart falling upon him, the cart upsetting sideways, in consequence of the giving way of an embankment under one wheel. I found him lying on the floor in a house adjacent to the location of the accident. There was a cut over the right brow in the line of the orbital ridge; right zygomatic region swollen, hard and denuded of pigment layer. No bones were broken, but the left thigh was depressed at the site of the trochanter major, knee slightly abducted; fullness in obturator region; inner surface of the thigh touching opposite thigh. Left limb, by careful measurement, half an inch longer than right; toes very slightly everted, but not more so by comparison with right foot than often occurs by natural asymmetry.

I made an attempt at reduction without anæsthetics, assisted by Drs. L. J. Draper and Arthur Adams, who were present by invitation. This failed, not so much from muscular resistance, I think, as from prejudice in favor of anæsthetics, for in this operation the adductors are placed *hors de combat* by their own action, and the glutei should become congeners in the efforts at reduction.

Having sewed up the face-wound while waiting for anæsthetics to be brought, I administered one part of chloroform to three of sulphuric ether, and with the aid of appropriate moral and physical management, but a few drachms of the mixture were sufficient to secure complete anæthesia. It is a great mistake, I think, to ignore the moral element in administering anæsthetics, as the task becomes much easier when we have once acquired the patient's confidence.

I laid the patient on the bed, his head towards the middle and the sacrum on the edge of the latter, at right angles to its side-rail, his legs resting on two chairs, and then, Dr. Draper attending to the anæsthetic, placed myself at the patient's left side, brought the luxated thigh to an angle of some 80° to the body and the left leg to one of 100° to the left thigh, and took the left knee into my right axilla, my back being turned toward the patient's head and my trunk leaning strongly downwards. Let us call this the first stage of the operation.

Second Stage.—Laying my right forearm obliquely across the patient's right thigh, well up, to serve as a pad, and using his right thigh as a fulcrum, I laid his left thigh across my right forearm, so that the three limbs now represented the crossed sticks of a kite, and then made steady pressure downwards by weight and muscular force with my trunk, etc., upon his knee at my right axilla; his left thigh serving as a lever.

Third Stage.—Still stronger pressure with my left hand downward upon patient's left foot, securing thereby rotation of the left thigh outward. The patient's left thigh and left leg both being in the meanwhile between my right arm and the ceiling. After some one or two minutes' vigorous pressure thus at right angles to an imaginary line between the "ditched" head of the left thigh-bone and its natural socket, the said head mounted over the bridge intervening between these two points (obturator fossa and acetabulum), and dropped into the acetabulum, with a harsh tendinous crepitus audible to all present, but an absence of the usual snap of the head and socket coming together, as the round ligament probably intercepted the two surfaces. The pressure I made on the left foot of the patient was so strong that a young child's femoral apophysis might not have resisted it.

Phylosophy of the Operation.—Two distinct impacts were brought to bear upon the head of the left thigh bone, it being the centre, so to speak, of a triangle of force, and compelled to move at the compound angle of reflection. The cardinal aim of the operation must be, then, to so place the thigh and the operator's forces that the acetabulum must be in the trajectory of the head's movement To effect this, as there is but one such line between the fossa and the socket, there can be but one set of angles of position of patient and operator which can possibly succeed in reducing the luxation under discussion ; and these angles, I must assume, I have given above, since my operation succeeded. I made no experimental movement of the limb, for fear of altering the character of the luxation. The patient recovered without an untoward symptom in two weeks, being discharged May 2, 1875, with cautions against working for a month longer. At this time the white zygomatic skin had recovered its natural color.

Remarks.—I am led to report this case by some remarks setting forth the obscurity that seems still to surround the American mode of reduction (by manipulation) as applied to this class of luxations, published in the *Glas-*

gow Medical Journal for August, 1873, page 444, by C. Cameron, of Edinburgh, and copied in Braithwaite's *Retrospect* for July 1874, page 75; also by the varying results obtained by Markoe, Hamilton, and others, in the same application. Speaking of a paper by Dr. Thomas M. Markoe, in the New York *Journal of Medicine* for January, 1855, Cameron says: "In all the cases of thyroid dislocation it would seem that extensive flexion was employed and rotation was found to succeed, whether made inwards or outwards. It seems as if too great flexion is the cause of bones slipping from one position to the other" (from the thyroid to the greater ischiatic notch) "without entering the acetabulum. At all events, this is the opinion of Bigelow and Hamilton, and in the case related above I flexed the limb to the fullest extent." My author here quotes from Bigelow. In regard to Dr. Markoe's case of thyroid dislocation he says: "These cases are instructive as showing that the head of the bone is directed towards the socket when the Y-ligament is wound upon the shaft by rotation, *whether inward or outward*, and they correspond to the results of my own experiments, made before I read them. * * * * * * * It may seem superfluous to add that, in Markoe's case, inward rotation would probably have reduced the bone had the thigh been less flexed." The author next quotes from Hamilton as follows: "In one example mentioned by Markoe it is pretty evident that the head of the femur was thrown into the ischiatic notch by having flexed the thigh too much, so that the knee touched the thorax. Indeed, it is questionable whether it will be best ever to bring the thigh much, if at all, above a right angle with the body, since any further flexion can only throw the head below the acetabulum, when, in fact, it is already too low. In backward dislocations the flexion should be firm and complete." It might obscure the juxtapositions which, I conceive, the above quotations very beautifully draw between the indications in thyroid luxations and the manner in which I think I complied with these in the case of Dabney Minor, above reported, to dilate further by comparing the mechanism implied in my operation and that of Markoe's operations, especially the one quoted by Hamilton and discussed by Cameron, as above mentioned. Each reader can refer to "op. cit.," and make this comparison for himself better than under dictation. My endeavor has been simply to so present my case that those who choose to give this subject the study its importance so abundantly entitles it to may consider whether my plan of operation and my angles—80° for the thigh, 10° short of a right angle, and 100° for the leg, 10° beyond a right angle—be not the true ones indicated by the anatomy of the parts.

Bigelow's *rationale* of the reduction by inward or outward rotation, winding the Y-ligament around the shaft, was certainly not borne out in my operation, for my rotation of the thigh did not carry the head of the femur through an arc of more than 10°, or 20° at most, taking the distal arc which the patient's foot traversed as my guide. Nor do I see how the ligament could wind around anything but its own point of insertion in the head. Or, if I am blundering in my anatomy, and his Y-ligament means the ileo-femoral or accessory, this was slightly stretched in my operation, and so separated from the femur, except at the trochanter minor, that it may represent a bowstring, the neck of the femur being taken as the bow; and in Cameron's and Markoe's operations, in the latter of which Markoe is made to say, "The knee touched the thorax," the ileo-femoral ligament must have been still further removed from the femur and positively relaxed, unless stretched over the front of the ileum by "the knee being carried to the opposite side of the chest."

ARTICLE IV.

PELVIC ABSCESS IN THE MALE.* By T. HERRING BURCHARD, M. D., Lecturer on Surgical Emergencies, Bellevue Hospital Medical College.

By reason of their comparative infrequence, the indefiniteness of their symptoms, and the natural difficulties in the way of diagnosis, pelvic abscesses in the male have not attracted the same surgical attention as have those occurring in the female.

The serious nature of the affection is quite as great, however, in the one as in the other, and its occurrence we believe to be more frequent than the meagre literature of the subject would lead us to suppose.

Indeed, in the standard English and American authorities the subject is entirely ignored, or dismissed with a passing allusion, an omission that is especially felt when we are brought in personal contact with such a case.

Five cases have fallen under our immediate observation. The last case I have the pleasure of presenting to the Academy this evening.

By pelvic abscess, we wish to be understood as meaning a phlegmonous inflammation occurring in the superior portion of the pelvic cavity, below the cavity of the abdomen, from which it is separated by the pelvic reflections of the peritoneum, and above the muscular floor formed by the levator ani muscle.

It must not be confounded with abscesses of the abdomen—typhlitic, perityphlitic, etc.,—nor with those originating below the levator ani, in the ischio-rectal fossa.

In the loose connective tissue which occupies this region, described by Richet as the *pelvic-rectal space* (Traité practique d'Anat. Med. Chirurg., 4th Ed., Paris, 1873, p. 93), abscesses occasionally form.

From the peculiar anatomical construction of this space, with its bony lateral boundaries and its dense and almost impervious musculo-membranous floor, abscesses may originate here, producing most acute constitutional disturbance, and even very extensive local disorganization, and yet unaccompanied with any distinguishing symptoms that would call the surgeon's special attention to their existence. Not only this, but, following the general law of abscesses, to travel in the direction of least resistance, they will burrow internally to very distant parts without manifesting their presence by coming to the surface. Thus, they will dissect their way through the foramina of the pelvis, and appear externally under the gluteal muscles; they have penetrated the acetabulum and destroyed the hip-joint (Mr. Morris, of Middlesex Hospital, London, amputated the thigh at the hip-joint in a lad of seventeen in such a case); they have dissected up the aponeurosis of the iliac muscles, produced necrosis of the ilium and appeared (as in the case I shall exhibit this evening) upon the external surface of that bone. Or, again, (as in case II. to be described), the abscess, having emerged from the pelvic cavity, may travel anteriorly, following the course of the femoral vessels beneath Poupart's ligament, and make its appearance on the anterior surface of the thigh. Or, again, it may penetrate the hollow viscera and evacuate itself into the bladder, the rectum, or the peritoneal cavity. In fact, having once escaped its bony confines, there is no direction in which it may not travel.

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*A paper read before the New York Academy of Medicine, April 15, 1886.

Mr. Henry Morris (Ashurst's National Encyclopedia of Surgery, Vol. v., p. 1024) divides such iliac abscesses of pelvic origin into two groups: 1, The subperitoneal, and 2, The subaponeurotic. The former, he claims, are prone to spread widely, in both an upward and a downward direction, reaching the upper boundaries of the abdomen, even burrowing behind the diaphragm ; while the latter are more circumscribed, forming between the fascia iliaca and iliac muscle, and producing caries or necrosis of the bone.

Clinical History and Symptoms.—The clinical history and symptoms naturally vary according to the acuteness or latency of the attack. Should the attack be acute, both the constitutional and the local disturbance are proportionately greater. In such cases the phlegmon forms rapidly, with great pain and corresponding febrile phenomena. Such an attack might readily be mistaken for one of general or circumscribed peritonitis. With the pain we have more or less abdominal distention, tympanites, vomiting, and flexion of the thighs, all of which are characteristic of that disease. Micturition is difficult or altogether impossible. The tumefaction may project into the rectum, setting up proctitis and tenesmus. Should the inflammation spread upward, localized or general peritonitis may result. "Inflammation beginning in the pelvic cellular tissue is anatomically prone to spread to the iliac fossa" (Morris, opt. cit.).

Abscesses that form thus acutely are more likely to evacuate themselves spontaneously in either the rectum or the bladder than are those of a subacute or chronic character.

The following case, published by Dr. Bowditch (First Med. and Surg. Report of Boston City Hospital, p. 64, 1870) is illustrative of the truth of this statement:

"A slater, aged 25, was admitted into Massachusetts General Hospital, having fallen a height of thirty feet, striking his face and hands.

"Intense pain in the lumbar and umbilical regions, with bloody urine, removed by the catheter, were the immediate symptoms. His condition grew worse ;

pain was intense. Abdomen tymphanitic and very tender. Later on an induration was detected deep in the left lumbar and hypochondriac regions. At the end of the fourth week the abscess pointed in the left inguinal region. On introducing a tube into the rectum to relieve the flatulent distention of the bowels, an abscess was punctured and a large quantity of pus with bloody mucus came away. The swelling in the inguinal regions and tympanites nearly disappeared thereupon; but pus continued to be discharged daily per rectum. The patient never recovered. The abscess refilled, and burrowed up into the inguinal region and down under Poupart's ligament into the thigh. The patient died from phthisis, consequent upon long-continued suppuration, within eleven months after the injury."

Just how speedily the inflammation may terminate in suppuration in these acute cases, it would be difficult to say. The inference is logical that suppuration, when it occurs, does so some considerable time before it makes itself manifest by external tumefaction; that the delay in getting the evidences of abscess is not due to absence of pus, but rather to the difficulty the pus experiences, on account of the depth of the suppurative process, in coming to the surface.

During all this time, however, the constitutional evidences of internal suppuration are more or less pronounced, and a carefully conducted examination at this stage may forestall and prevent many months of tedious suppuration, with its attendant evils.

Still, chronicity, rather than acuteness, seems to be the rule with pelvic phlegmons in the male, except in cases having a traumatic origin. The affection most frequently occurs in the poorly nourished and cachectic, and in such subjects inflammatory processes are slow, and suppuration tardy. A widely diffused induration may pervade the pelvic cellular tissue months before its final breaking down into pus.

The diagnosis in such cases is often very baffling, owing partly to the inaccessibility of the parts affected, and partly to the perplexity of symptoms that arise from so many different tissues, organs, blood-vessels, and nerves being implicated in the inflammation.

As bearing upon the clinical history, the following cases are submitted:

CASE I.—Cunningham, Scotchman, cloth printer, forty years of age, was admitted to Bellevue Hospital, Ward 14, June 4th, 1872, with the following history:

Always a hardworking, temperate man. Father and one brother died of phthisis. Mother died of cancer. General health prior to the attack fairly good. Eight months before, while sitting on a wet bridge fishing, fell asleep, and awoke after the lapse of an hour with a severe chill. Went immediately home and to bed. Had severe chills with high fever for seven or eight days. Excruciating pain in bowels, back and thighs. Bowels became moderately bloated and constipated. Had darting pains through pelvis and in both testicles. Constant desire to pass water. Micturition impossible after first night. Passage of catheter caused great pain.

Had to be kept constantly under morphia or opium. Hot applications were made to loins and abdomen. About the tenth day an abscess discharged itself into rectum, perhaps a pint of pus escaping. Immediate relief experienced, which lasted three or four days. Discharge of pus from rectum then ceased. Pelvic pain returned, but not so severe as before. Fever also returned with sweating. Less than a week after abscess burst again in rectum, with immediate relief succeeding. Discharge of pus kept up all winter, the quantity sometimes amounting to a pint in twenty-four hours. Twice during the last two months discharge ceased for three or four days at a time. Pain in perineum, back, and abdomen immediately succeeded, accompanied with high fever.

On admission: Patient half moribund and very feeble, having lost over forty pounds in weight. Body jaundiced, and teeth and tongue covered with sordes. Abdomen moderately extended and tympanitic. Pressure over bladder produced deep gurgling in pelvic cavity. Rectal examination showed an irregular tumefaction high up in pelvis. When counter-pressure was made over hypogastrium, excessive fetid pus escaped from rectum.

Diagnosis of pelvic abscess with septicæmia was made by Dr. McBride, House Surgeon.

Death occurred the following day.

Autopsy revealed an old abscess cavity, size of small cocoanut in upper part of pelvic cavity, reaching just above the brim, and containing perhaps a gill of offensive pus. Walls of cavity gangrenous and sloughy, but entirely shut off from peritoneal cavity by a dense layer of plastic material. No recent peritonitis. Pelvic veins filled with thrombi. An opening large enough to admit the little finger connected the abscess cavity with the rectum. Pyæmic abscesses in liver and spleen.

Case II.—Seen in consultation with Dr. J. Grafton, Watertown, N. Y., August 19, 1873.

Mr. ———, age, 32. Had been generally well up to a year ago, when he developed a severe gonorrhœa after a prolonged spree. This lasted, off and on, for four or five months, during which time he had a severe attack of gonorrhœal rheumatism of left hip-joint and knee.

His present trouble dated back some five months, and immediately succeeded the rheumatism. Patient was awakened from sleep by a dull pain, deep in perineum, and a sensation of chilliness, although no distinct rigor occurred.

Pain became more intense, the abdomen began to bloat, and, when seen by his physician the following day, there was well-marked peritonitis. This became general, and lasted nine or ten days. After its subsidence, a small tumefaction was observed in left iliac fossa. This ultimately disappeared. Some ten days after, while being lifted from bed to lounge, a sharp pain was experienced in lumbar region, extending down into the pelvis. Pain increased greatly through the night, and the swelling reappeared in left iliac fossa. Fluctuation being detected, a small abscess was opened without giving any relief. The following day, however, a deeper abscess burst through this opening and discharged nearly a pint of pus. The incision was now enlarged, and an oakum tent was carried down towards the floor of the pelvis. Great relief followed this, but, despite every attention, the abscess would fill, discharge itself through the fistulous opening, and refill.

During the summer a phlegmon formed deep in Scarpa's space. This was lanced. The finger, introduced into the abscess cavity, followed the crural sheath beneath Poupart's ligament into the iliac fossa.

When I saw the patient, who had just come under Dr. Grafton's care, he was greatly emaciated and œdematous, and had well-marked waxy degeneration of the kidneys.

Two sinuses led by circuitous routes into the pelvic cavity; one through the inguinal region, and the other from the anterior crural. A large, soft catheter, introduced through the former opening, could be readily passed into the pelvis. Warm carbolized water, gently injected, caused a perceptible tumefaction on anterior wall of rectum, high up. Upon my suggestion, and with a view of establishing thorough drainage, a counter-opening was made at this point, and considerable necrosed tissue washed away. Drainage tubes of oakum were introduced.

Improvement, both in the patient's general condition and locally, was very marked after this. An inter-current attack of nephritis caused death within the following fortnight.

Case III.—Seen in consultation with Dr. McKnight, of Brooklyn.

A slight-built and delicate lad of seventeen received a severe strain some six months before, by being lifted by "the seat of his breeches," over a friend's head in play. Faintness, succeeded by vomiting and intense pains in the back and down the thighs, followed. This pain in back and thigh continued about a month, and then, without apparent cause, the boy being in bed the while, it shifted from the back to the hypogastrium, and became distinctly throbbing in character. Paroxysmal pains shot down the sciatics and into the perineum. Defecation was invariably accompanied with great pain, and the bowels were permitted, frequently, to go a week without movement.

When I saw him, April 6th, in addition to above, the patient was badly cinchonized, and almost absolutely deaf from quinine, which had been administered with a view of breaking up what was supposed to be a malarial or neuralgic condition. A most careful examination, under nitrous oxide, was now made, both externally by rectum, and, as the boy was very thin, by conjoined manipulation, with bladder both empty and distended; but neither tumefaction, induration, or any other cause, was found to account for his excessive pain, pyrexia, and loss of flesh. Within a few days after this, while straining at stool, an abscess burst within the rectum and discharged several ounces of pus. The most marked relief followed. Pus continued to be discharged for some days, and a permanent recovery followed. In recalling this case, and the thoroughness with which the examination was made, it was rather mortifying to learn that a dense mass of indurated cellular tissue, posterior to the rectum which, at the time, was taken for the promontory of the sacrum, in less than a week broke down in suppuration.

Case IV.—A cachectic and feeble old Italian was admitted to my service, Charity Hospital, June, 1883, with what was supposed to be a chronic suppurating bubo of left inguinal region.

A very unsatisfactory history of pelvic pain, of two years' standing, was obtained. He complained, on admission, of weakness, loss of flesh, and pain referred to the hypogastrium, perineum, and gluteal regions. There was partial incompetency of the sphincters.

On examination, an unhealed incision, leading into the rectum, above the internal sphincter, with a deep sinus running up into the pelvis, was found. The operation had been performed about a year previously—for what, or by whom, he did not know.

A vertebrated probe passed up this sinus to a depth of eight inches, and there met another probe passed through the abscess cavity in the groin. Of this latter we could learn nothing definite except that it had been there for several months.

With considerable difficulty a soft rubber catheter was passed through this opening and down into the pelvis. Injections made through this escaped by the perineal opening.

The patient refused to submit to any treatment, and left the hospital. He presented himself at my office the following fall for charity. An examination revealed the upper opening closed, the perineal sinus still open. A vertebrated probe readily passed about seven inches.

Case V.—Peter Murphy, aged 28, married, a porter by occupation. Always temperate, and robust and strong up to March, 1882, at which time he was suddenly seized, after some unusual exertion, with sharp pains in the right iliac fossa, which lasted thirty hours. This paroxysm terminated in a dull, heavy pain which extended across the hypogastrium into the left iliac region and which continued with greater or less severity up to the time of his operation.

In June, 1884, he was admitted to St. Luke's Hospital, suffering from the same intense pain. Poultices were applied, but no suppuration occurred. The diagnosis of typhoid fever was then made.

In the following August, after several unsuccessful aspirations, an abscess of the right lumbar region, midway between the iliac crest and ribs, was evacuated by the late Professor James L. Little. The case was regarded by him as one of perityphlitic abscess.

At this time the patient's condition was very bad; with severe, steady pain, deep in the pelvis and perineum, and darting pains extending through the rectum into the right testicle and down the sciatics. There was also priapism, with involuntary nocturnal emissions.

In December a second abscesss formed, and was opened by Dr. Little. Although suffering more or less constant pain, his health improved during the winter; but in March and July following, other abscesses formed in the side and over the body of the ilium. These were also opened. In August and September he had the pain and constitutional disturbance of forming abscesses, but free incisions failed in giving vent to pus.

Oct. 5th. Patient's health evidently failing. All the old pains have returned. A careful examination under ether was made by me, Drs. Seneca D. Powell and Henry A. Mandeville assisting; but, owing to the thickness of the abdominal walls from fat, this was very unsatisfactory. Rectal examination revealed nothing.

A localized phlegmon over the ilium, two inches below and to the front of the posterior superior spinous process, was opened, and carious bone detected. This was removed by gouge and rongeur. The superficial caries led into a large abscess cavity in the ilium, and this in turn communicated, by a direct opening, with the iliac fossa. The finger, introduced through the bone, could detect nothing abnormal within the abdomen. The carious bone being thoroughly removed, a tent of bichloridized oakum was introduced through the ilium, and the wound partially closed.

Oct. 29th. After great pain referred to the hypogastrium, right iliac region, and right testicle, another abscess formed and discharged through the opening in the bone. The source of this could not be detected, and both external and rectal examinations failed to throw light on the case.

In the early part of December another abscess formed within the pelvis, but, instead of discharging through the opening in the ilium, pointed over the crest, and was evacuated at this point.

The patient's condition was now critical in the extreme. He was rapidly losing strength and flesh, and was being worn out with constant pain and suppuration; while albumen, with hyaline casts, appeared in his urine. It was felt that something effective ought to be done, and yet there was nothing tangible upon which to found a diagnosis, beyond the fact that at irregular intervals abscesses in the right iliac region would form and discharge. Repeated examinations were negative in their results.

From the first the case was regarded by my assistant, Dr. H. A. Mandeville, as one of abdominal abscess of deep origin, and the carious bone as secondary to that; and hence, from the first he advocated an exploratory abdominal section.

From this I at first differed, thinking the recurrent abscesses were due to the bone disease, In either case the indications clearly were to open the abdominal cavity (of course employing every antiseptic precaution), and, if possible, by stripping up the peritoneum from the right iliac fossa, to seek and remove the source of irritation.

In this opinion we were supported by Prof. R. F. Weir and Dr. H. Marion Sims, who kindly saw the case with me.

Operation.—St. Elizabeth's Hospital, February 1, 1886, Drs. Sims, Mandeville, C. W. Stimson, assisting.

An incision was made, commencing just above and posterior to the posterior superior spinous process, and following the bone downward for a distance of five inches. The dissection was carried through the abdominal muscles, and the peritoneum exposed. This I endeavored to detach from the subjacent fascia, but so firmly adherent was it, that, in spite of very gentle manipulation, it tore. A flat sponge was introduced through the laceration, to hold back the intestines, while with the hand a thorough exploration was made. Almost immediately a mass of adhesions was found, that led to an old abscess cavity, which occupied the posterior half of the fossa, and extended, like a great sinus, directly from the ilium, over the line of the pelvis and down into its cavity. No dead bone could be detected.

The sinus having been laid open, its walls,. which were almost cartilaginous, were thoroughly revivified with a dull curette. The sinus, through the bone, was likewise curetted, and some curious bone removed. Two drainage-tubes of soft rubber, eight inches long, were carried directly to the bottom of the sinus, and the whole thoroughly irrigated with a solution of bichloride of mercury, 1–2,000. The abdominal wound was now closed with deep and superficial sutures. The incision leading through the bone was kept open, and dressed from the bottom with iodoform and bichloridized oakum. A superficial dressing of borated cotton was made over all.

The patient rallied nicely. On the third day the temperature rose to 102 1-5°, and the pulse to 120, and there was a very slight circumscribed peritonitis. On the 6th day, the patient's temperature was practically normal, and the discharge from the tubes scarcely amounted to half a drachm. After this, the tubes were shortened gradually, and, at the end of three weeks, were entirely removed—firm granulations having filled up the cavity of the sinus.

The opening through the bone has likewise been filled in with new tissue, and is now closed. To-night I have the pleasure of exhibiting the patient in better health than he has enjoyed for years.

Diagnosis and Treatment.—The length of this article precludes any elaborate presentation of these important subjects, the object of the paper rather being to call attention to a much neglected class of cases.

It must be remembered, however, that wherever cellular tissue exists in the body, there suppurative inflammation is liable to occur. The male pelvic cavity, as the grossest dissection will show, contains a large amount of cellular tissue, and, pathologically, it is no exception to the rule.

Inflammation occurring here, manifests itself, in addition to local distress or pain, which is generally severe in character, by the usual constitutional disturbances. After tumefaction has occurred, another set of symptoms arise, which are due to pressure on sensitive nerves and organs. Recall, in the histories cited, how uniform have been the pains in the hypogastrium and pelvis, the excruciating pains down the sciatics and extending into the testes and rectum. Another feature, peculiar to these abscesses, is their tendency to burrow, and the very great dangers attendant thereupon. Their natural destination should be the perineum, and such, doubtless, would be the case, were it not that the extremely dense fibres of the levator ani and prostatic muscles, which are largely composed of firm, fibrous tissue, present an almost impenetrable obstacle.

The next most natural route would seem to be the rectum, and here many of these abscesses are evacuated. Many, however, mount the pelvic cavity, and appear within the abdomen.

After this their course is erratic. Most of the abscesses appearing anterior to the bladder in the so-called *cavum Retzii* (named after the distinguished Swedish anatomist, Retzius), the præ-vesicular abscesses of French surgeons, are abscesses of pelvic origin (see a most interesting account of such by Leusser in Langenbeck's Arch. für Klin. Chirurgie, Vol. XXXII., No. 4, p. 851.)

Clinically, it is important to distinguish between an inflammatory condition pure and simple—a cellulitis simplex—and the same condition after it has passed into the suppurative stage.

The presence of pus cannot be recognized at too early a period. It is likewise necessary to distinguish between a pelvic cellulitis and general or localized peritonitis; also between this and cystitis, proctitis and prostatitis. Rheumatism and neuralgia, too, must be borne in mind.

Surgically, it is necessary to differentiate between abdominal abscesses, ileo-pelvic abscesses, pelvic abscesses, abscesses of the ischio-rectal fossa and perineal abscesses.

Exceptional possibilities must be carefully considered; such as hernia strangulated in the pelvic foramina, passage or impaction of renal calculi, acute inflammation of the psoas muscle, typhlitis and perityphlitis, and, lastly, scrofulous, malignant, tubercular and syphilitic disease of the pelvic glands.

Treatment.—The treatment, externally, resolves itself into treatment of the cellulitis before suppuration, and treatment after suppuration is established.

In the former case rest, morphia, quinine in free doses, local refrigeration, and, possibly, local depletion by leeches to the perineum. In employing cold in this, or any other inflammatory condition about the rectum, nothing equals in efficacy and comfort, in my experience, the continuous douche of cold water, which passes up and immediately returns through a double-flow blind tube. The great mistake that is often made by the inexperienced in the application of either this or the ice-coil, is in applying it too cold at first. The water at first should be warm, and then gradually cooled until ice-water can be used, and with astonishing relief. During acute inflammation frequent rectal explorations should be desisted from, as calculated to do more harm than good. After suppuration may reasonably be suspected, a careful examination under anæsthesia should be made, in order that the abscess may be evacuated into the rectum at the earliest possible moment. If evidence of internal suppuration persist, and there is reason to believe the pus to be burrowing upward, an abdominal exploratory incision is obviously demanded.

If this can be made without opening the cavity of the peritoneum, it certainly should be done. The object to be attained, however, is the evacuation of the pus; but we cannot always be successful in this, as adhesions will form impossible barriers at times. Mr. Tait met with failure in such a case in a male (recorded in Emmet's Gynæcology). The principle, though, is surgical and conservative.

ORIGINAL TRANSLATIONS.

FETID BRONCHITIS. By DR. LANCEREAUX. Lecture reported by M. Oettinger, Interne. Translated from the Union Médicale by H. McS. GAMBLE, M.D., Moorefield, W. Va.

Gentlemen:

You have recently seen in our wards several patients attacked with fetid bronchitis, and you have been able to study and follow the evolution of this disease, difficult to recognize in many cases, and so often rebellious to all treatment. I desire, to-day, to speak to you more fully of this affection, and to relate to you the interesting history of two of our patients.

In No. 27, of Piorry Ward, there is a patient of vigorous appearance, thirty-eight years old, and admitted to the hospital the 15th of last February. His father died at the age of eighty-two years, with an attack of paralysis; his mother is still living and in good health, notwithstanding pretty frequent attacks of asthma; he himself usually enjoys good health. In 1862 he contracted intermittent fever in Africa, but since then he has never had a return o paludal disease; for the last fifteen years about, he has coughed frequently, almost every morning, and his cough generally manifests itself by paroxysms prolonged for from three to five minutes.

At the close of November, 1883, he contracted an intense bronchitis with laryngitis, which lasted for a very long time; towards the month of January the morning paroxysms of coughing, which were always very frequent, were accompanied by a peculiar fetidness of the breath, a fetidness by which the patient was very much incommoded, and which often caused nausea and vomiting; these symptoms were still present at the time of his admission into the hospital.

We observe, at this time, that the expectoration presents two well-marked features. In the first place, a very great abundance, since it is often more than a demi-litre in the course of the day and night; and, secondly, a peculiar odor, a stale, fetid odor, less perceptible to us than to the patient. When the expectorated matters are allowed to settle, we see that the upper layer is aërated, viscid, composed of masses of greenish mucosities collected together, whilst the lower layer is composed of a sediment of pus, separated from the upper by a notable quantity of a clear, viscid liquid, which gives to the expectorated matters their special consistency.

Auscultation of the chest reveals to us the existence of a rude respiration, with diminution of the amplitude of the vesicular murmur, and a few fine râles, disseminated through both lungs. Let us add, that the other organs seem to be healthy. However, the appetite is abolished, and the thermometer indicates a pretty notable elevation of temperature, varying between 38° and 39°.3 C. (Hyposulphite of soda in doses of four grammes.)

February the 20th.—The fetidness has already diminished, and, at the same time, the expectoration is less abundant.

The 25th.—The fever has entirely subsided; the expectoration presents an odor but slightly noticeable, and the patient perceives it only a little in the morning upon waking up, after the first paroxysms of coughing. Finally, the 24th of March, the patient leaves the hospital, no longer coughing, no longer expectorating, and enjoying an excellent general state of health.

By the side of this patient, whose symptoms were, so to speak, without tenacity, we must place another patient, confined in No. 33, because he forms a contrast with the preceding. Whilst the latter preserved all his embonpoint, this patient is pale and thin, and presents all the features of a subject of phthisis in the third stage. This man, fifty-three years of age, has never been sick, and, for the last four years only, has coughed frequently; in 1880, in fact, he was treated at La Pitié for symptoms similar to those which now bring him here to us.

He then expectorated a large amount of sputa of a disagreeable odor, and he had been regarded as a subject of pulmonary tuberculosis. Having left the hospital, he had recovered little by little, and had resumed the course of his ordinary occupations. In February last, he took cold after exposure to a hard rain, and has coughed since that time much more than he did before. This fatiguing paroxysmal cough, especially at night, is accompanied to-day by a very abundant expectoration. His sputa, which in the course of a day about half fill a basin, are heavy, viscid; they constitute a kind of paste, and, when they are allowed to settle, they form in the bottom of the vase a pretty abundant sediment of pus, while the upper portion is formed by a syrupy liquid, on the surface of which float floculent masses, imprisoning numerous globules of pus, which, upon standing, gain the sloping parts of the vessel. Moreover, they emit a fetid, repulsive odor.

Auscultation reveals the presence of numerous, sonorous rhonchi in both lungs; besides the dulness at the base of the left lung, the existence, at this point, of a cavernous souffle, and, of course, subcrepitant râles, allows us to suppose that there exists there an induration with excavation by bronchial dilatation.

This man is pale, emaciated, reduced; since the commencement of his disease, he says he must have lost several kilogrammes of weight. The 2d of May, he is subjected to treatment by hyposulphite of soda in four-gramme doses, and, after a few days, a decided improvement is noticed; this improvement, hindered by an imprudence of the patient, who descends into the court and ascends again with the feet swollen, is, however, not long in becoming more marked. The patient coughs and expectorates much less; the fetidness of the expectoration diminishes every day; a notable change for the better is observed; the general condition is good, and to-day, May 19, our patient has already gained three kilogrammes.

Such are the facts which we have at present before our eyes, but it would be easy to add many others; we have to deal with a disease common enough if we are willing to take the trouble to diagnose it.

The persons who are attacked by it commence by coughing for a longer or shorter time; generally they have a dry, paroxysmal cough returning obstinately upon awaking in the morning; then, one day, without appreciable cause, sometimes after exposure to cold, the sputa assume a fœtid odor, at first hardly noticed, and which manifests itself above all by a repulsive odor of the breath; this phenomenon, which generally attracts but little attention, disappears until the day when the symptoms of bronchitis are reproduced with greater intensity.

A year or two after the first symptoms, sometimes only after seven or eight years, the cough becomes more frequent, the expectoration more abundant, the fetidness of the sputa more pronounced. The latter, as we have seen, present important features which it is very useful to study, in order to have something in hand whereby to establish the diagnosis. They are abundant, and attain to the quantity of a half litre, three-fourths of a litre, and even more, in twenty-four hours. They allow a more or less abundant purulent sediment to deposit on standing: this pus is partly free in the expectoration, partly mixed with the bronchial mucosities which float in the expectorated liquid. Thus, we see the purulent deposit increase in quantity by the prolonged rest of the sputa; the greater part of the latter is composed of a fluid of bronchial origin which assumes a viscid, syrupy consistency, and which gives to the whole mass a very notable specific gravity. It is equally to be remarked that the sputa have sometimes a reddish appearance, a chocolate color, due to the admixture of a certain quantity of blood with the bronchial mucosities; but a hæmoptysis, properly so-called, is here an altogether exceptional event.

Finally, it is necessary to note the absence of the tubercle bacillus and the presence of numerous micrococci, which are observed particularly under the form of diplococcus; this is, at least, what we have been able to demonstrate in the patients at present under treatment in our wards.

The odor, sometimes but little noticed, revealing itself, so to speak, to the patient only by the fetidness of his breath, becomes, under other circumstances, much more repulsive; it is a stale odor which sometimes, but above all at the moment of expectoration, assumes the character of pulmonary gangrene, of anatomical maceration. Auscultation and percussion of the lungs are far from being *en rapport* with the important indications furnished by the sputa; most frequently there barely exist a few râles of bronchitis, a few modifications of the vesicular murmur. Sometimes, however, we find little foci of fine disseminated râles, or even veritable signs of cavities, blowing, gurgling, when the lesion has already reached an advanced phase. The diagnosis is then extremely difficult, and very often one thinks of pulmonary tuberculosis, the more so as at this stage of the disease the patient is pale, emaciated, reduced, and presents all the characteristics of a consumptive in the last stage. Fever finally supervenes, then diarrhœa and œdema of the lower extremities. Death may be the end of this long morbid evolution; but we must say, however, that this is exceptionally the case, and that Professor Lasègue has justly called this form of bronchitis the curable gangrene of the lungs.

In 1841 Briquet called attention to a peculiar form of pulmonary gangrene which he called gangrene of the bronchial extremities; this affection was studied later by Dittrich, then by Traube, under the name of putrid bronchitis; but the latter studies, especially in his memoir, the parenchymatous gangrene of the lung as a terminal complication of bronchorrhœa and bronchitis.

The evolution of the lesions of fetid bronchitis is easy to study; it explains the symptoms which the patients present. In consequence of repeated bronchial pressure, the bronchi remain thick, injected, covered with mucus and pus; sometimes they undergo a slight degree of dilatation and thickening, especially on the plane of the mucous membrane; these lesions, which are located in the large bronchial tubes, do not spare the small ramifications; they may extend to one or two several lobes of the lung. The lower lobes are principally affected, but not exclusively so.

In a second phase, the lobules adjoining the diseased bronchus are hepatized and undergo a gangrenous or purulent softening, probably according to the nature of the bronchial products and their greater or less virulence; each bronchial extremity is there found surrounded by a cavern formed by the destruction of the pulmonary tissue. The latter, in a few cases, however, becomes the seat of a more or less pronounced work of sclerosis; the pleura becomes thick and adheres to the pulmonary tissue, and this is doubtless a fortunate circumstance, which allows an escape from the very serious accidents liable to supervene in the course of fetid bronchitis. A superficial cavern may open, in fact, into the pleural cavity and give rise to a fatal pneumothorax or a circumscribed pleurisy, which most frequently becomes purulent. I will recall to your memory an interesting case which we noticed in our wards several weeks ago.

An individual, 53 years of age, scissors grinder, * * * presented upon his admission to the hospital, December 6, 1883, all the signs of fetid bronchitis, the commencement of which must have dated back about two months; for a long time, principally in the morning, he had been subject to violent attacks of coughing, ending in an abundant and fœtid expectoration. Treated by the hyposulphite of soda, he improved rapidly, the fever disappeared, the general condition become better, but the symptoms furnished by an examination of the lungs remained the same; we had, in fact, at the beginning noticed a dulness extending to the base of the right lung, and the presence at this point of an expiratory murmur, signs which had caused us to think of the existence of a cavity circumscribed by a pulmonary sclerosis. The patient succumbed, in spite of his temporary improvement, on the 30th of January, with dyspnœic symptoms of a few days' duration. At the autopsy we noticed the existence of a citron-colored, serous effusion of about two litres in the right pleural cavity, whilst in the right lung the bronchial ramifications of the lower lobe were thickened, dilated and filled with a stale, fetid liquid; around the smallest bronchi there were several abscesses of the size of an olive, formed by the suppuration of the pulmonary lobules adjoining the diseased bronchus. In the upper lobe, where these lesions were less common, we found an abscess of the size of an egg, situated beneath the pleura covered with recent false membranes. We had here, then, a serous pleurisy developed in the course of a bronchial gangrene, and this fact is rare enough to deserve being noticed.

Generally, in such cases, suppurative pleurisy arises, and I remember the history of a young confrère who, attacked with fetid bronchitis, presented all the symptoms of an extensive pulmonary excavation, then of pleural effusion; a puncture withdrew a notable quantity of sanious, fetid fluid, of chocolate color. The pleurotomy, followed by washing out the cavity, determined a rapid amelioration, but the patient suddenly died a month after the operation, perhaps of pulmonary embolism. There probably supervened a pneumothorax with fetid, gangrenous effusion.

If the patient escapes these dangerous accidents—pneumothorax, gangrenous pleurisy—he is still exposed to the phenomena of hectic; fever is lighted up, the emaciation increases, the tongue is covered with muguet, and, after a longer or shorter time, death arrives.

We must notice here the possible existence of gangrenous, visceral embolisms. I remember, particularly, a case of cerebral abscess observed under such conditions at the hospital Saint Antoine, several years ago.

The character of the sputa, which we have described at length above, the abundance of the expectoration, the absence of the tubercle bacillus, will be the elements upon which one will rest to establish the diagnosis; in the first phase of the malady what will strike the attention will be the small number of symptoms furnished by auscultation of the lung, as compared to the general symptoms and to the special features of the expectoration, and one may say with reason that the contradiction between these different signs is of the greatest importance for the diagnosis. When there exist, at an advanced period, signs of a cavity, the embarassment is still greater; then the fetidness of the sputa and the habitual localization of the lesion in the middle part or at the base of the lung are circumstances which plead in favor of bronchitis with pulmonary gangrene. It is necessary, finally, to attach a real importance to the information furnished by the patient; it will enlighten us upon the march of the disease, upon its evolution, subject to long remissions, and upon its duration, which is often several years. The therapeutic indication is to seek, before all, to modify the anatomical condition of the dilated and suppurating bronchi. Two means present themselves: inhalations of antiseptic substances, and the internal administration of remedies eliminated by the bronchial tubes.

The first of these means is of difficult application, but we may nevertheless have recourse to inhalations of phenic or sulphydric acid; the last gives the best results. Claude Bernard, having administered a solution of sulphydric acid to some animals, found this gas in the products of the pulmonary expectoration. There are some substances which, by their passage through the bronchi, might be capable of modifying the condition of the latter. Briquet and Lasgèue recommended the essence of turpentine, and, in fact, this is a very useful remedy in some cases. As to myself, I use the hyposulphite of soda; it was by chance that I employed it at the hospital La Charité, in 1869. At that time this agent was advised by Polli, as a disinfectant. Given in the quantity of four or five grammes, sometimes associated with syrup of eucalyptus, it causes the sputa to lose their fetidness in from two to three weeks; it reduces their quantity, gives them a gummy consistency, and disappears entirely. Unless there are peribronchial pulmonary caverns, the improvement takes place in the space of a very short time. In the other case, the cure is long. Thus, the patient of whom I spoke to you at the beginning of this lecture, although relieved in a marked degree, is not yet entirely well. It is necessary to employ a general treatment to raise up and sustain the strength of the patient, and, if need be, to make use of sulphate of quinine if the fever persists for a long time.

LECTURES.

STRUCTURE OF THE LUNGS.—A lecture delivered before the students of the Medical Department of the Tulane University of Louisiana, by Edmond Souchon, M.D., Professor of Anatomy and Clinical Surgery in the University.

(Prepared expressly by the author for GAILLARD'S MEDICAL JOURNAL.)

In childhood the lungs are of a pink-rose, but as life advances they assume a pinkish-gray or a more or less leaden hue, variegated with spots and streaks of a dark slate or bluish-black color; this change is due to the gradual deposit in the structure of the lung of minute granules of black pigmentary matter.

The lungs are of a sponge-like consistency, readily float in water, owing to the presence of air, and impart a doughy and a crackling sensation when compressed between the fingers. In the fœtus before birth, or before respiration has taken place, they are firmer to the touch, and are heavier than water, and sink in that fluid.

Two envelopes surround the lungs, a serous and a fibrous. *The serous envelope* is formed by the visceral pleura, reduced to its epithelial layer.

The fibrous coat is blended with the substance of the lung, and for that reason is not so apparent as in the spleen, kidney, or liver, but which exists none the less.

From its deep surface are given off innumerable processes of *fine connective and elastic tissues*, which divide the interior of the lung into small alveoles named *the lobules of the lungs*; so that to know the structure of one lobule is to know the structure of the whole lung. The bases of the superficial lobules are readily seen on the surface of the lung, especially in the infant and in the ox, separated by the thick processes visible with the naked eye.

From the internal or deep surface of each lobule are given off *short microscopic processes* of connective and elastic tissues, which divide the lobule into smaller microscopic alveoles or *air-cells*, all of which open into a central cavity or canal occupying the centre of the lobule. The interior of the air-cells is lined by a pavement epithelium.

Each lobule receives at its apex a small bronchial tube; the lobule is, as it were, the expanded termination of the bronchial tube; the inner wall of this bronchial tube also presents air-cells.

Each lobule is provided with a division of the *pulmonary artery* and *vein*, which ramify in the lobule and form a most delicate network of the finest capillaries around each air-cell, situated immediately beneath the epithelium.

The bronchial artery is destined to the nutrition of the proper tissue of the lung; it does not communicate with the pulmonary artery, but communicates with the pulmonary veins. The small amount of the solid substance of the lung, together with the low vitality of the connective and elastic tissues composing it, account for the smallness of the artery compared with the large size of the organ.

The bronchial veins communicate with the pulmonary veins. The blood contained in those radicles which are at or near the lobule is arterialized in the vessel, and is discharged into the pulmonary veins, while the blood of the *larger divisions* of the bronchial tubes discharges into the bronchial veins.

The lungs are in truth a kind of racemose gland; the air-cells represent the acini, which form lobules, which themselves form the lobes. The secretory apparatus or ducts are the bronchi, trachea, and larynx, mouth, and nose. It is another example of the simplicity of the means which nature employs in building up even apparently the most complicated organs, and is also another instance of the law of unity of action which characterizes her workings.

SELECTIONS.

THE VALUE OF THE ANTISEPTIC SYSTEM IN PRIVATE OBSTETRIC PRACTICE; CONCLUSIONS BASED ON A STUDY OF THE PUERPERAL TEMPERATURE. By Henry D. Fry, M.D. Washington, D. C.

Obstetrics is the mother of antiseptic knowledge. Instead, however, of fulfilling her maternal duties and nurturing the offspring to full life and vigor, she neglected it, and but for surgery it might have been forgotten.

It is difficult to say why such was the case. The result of the adoption of antiseptic precautions in the hospitals of Germany was encouraging from the beginning, and, too, at a time when improvement was sadly needed. The mortality from child-bed fever at that period was something appalling.

Antiseptic delivery is not yet practiced so universally as it should be in hospitals, and still less is it employed in private practice. During recent years, obstetricians are recognizing its merits and giving the subject more attention. Some idea may be formed of the neglect it had suffered at their hands by making the following comparison. In Volume I. of the Index Catalogue of the Library of the Surgeon-General's Office, a space of about one-fifth of a column is occupied by references to articles on antiseptic midwifery, while antiseptic surgery takes up nearly nine columns of the same work.

I have said that the use of antiseptics in the delivery of women is even less employed in private practice than in that of hospitals, and the object of this paper is to consider the subject in the former aspect.

At a meeting of the Washington Obstetrical Society, held in April of last year, the subject for discussion was: "The Management of the Puerperium." I was at that time in full accord with the sentiments expressed by the majority of the members present in favor of antiseptic vaginal injections employed during the week or two succeeding parturition. So firm, indeed, was my conviction of their good effect, that I considered it a neglect of duty to fail to direct them in every case. Minor accidents in my own practice, and the reports of more serious troubles in that of others, had not deterred me from making use of them until, very soon after the meeting in question, I barely escaped having a death certificate to sign which would have read thus: First or primary cause, hot vaginal injection of a solution of carbolic acid; second or immediate cause, general peritonitis.

My patient had been confined of her third child, a girl, and had reached her eighth day safely and comfortably. Vaginal injections had been given by an experienced nurse, morning and evening, from the beginning of the lying-in; but, on the evening of the eighth day, its administration was followed by uterine pain, chill, fever, tympanites, and abdominal tenderness.

For several hours succeeding the injection, a watery fluid, tinged with blood, escaped freely from the patient's vagina. The next morning her temperature was 102°, the abdomen was still tender and tympanitic; bowels constipated.

By use of opium and hot applications, she recovered after twelve days of fever.

Dr. Chamberlain, of New York, has twice observed peritonitis quickly follow the use of vaginal injections of hot water. Although he says there was no evidence whatever, in either of these cases, that the fluid had been injected into the uterus, he nevertheless takes the precaution to avoid such an accident by having the injection administered while the patient is in a sitting posture;

also to use a tube without a terminal opening. Dr. Frank P. Foster believes the injections dangerous, whether given hot or cold, and in any position; moreover, he has no confidence in the theory that safety is secured by dispensing with the terminal opening in the tube. Mundé is of the opinion that the sitting posture *favors* the introduction of fluids into the uterine cavity, in parous women with probably lacerated and gaping crevices. In one of Dr. Chamberlain's cases it was impossible to have injected the uterus because of stenosis of the cervical canal. He is of the opinion that the harm resulted from direct action of the hot water on the inflamed tissues. Dr. Foster attributes the pain following the injection to a spasmodic contraction of the muscular wall of the vagina around the nozzle of the syringe, in consequence of which the upper part of the canal is distended by fluid. To remedy this, Dr. F. designed a special nozzle to be attached to the syringe.

Dr. Mundé holds that this view is theoretical and not supported by facts, except when there are pelvic adhesions, as in chronic peritonitis and cellulitis. These gentlemen agree upon one point: That vaginal injections may produce pain and sometimes dangerous symptoms. Each holds entirely different views as to the manner in which the injurious effect is produced, and each suggests a remedy, while he places no confidence whatever in the remedies proposed by the other two. This discussion* is introduced here merely to call to mind some of the inconveniences which may attend the employment of these injections, and you can readily appreciate why, after the experience I have related with my own case, I determined to adopt some method that would obviate the necessity for using vaginal injections.

The antiseptic plan so ably advocated by Paul Bar in France, and copied by Garrigues in this country, promised what I wished. *The antiseptics are used externally.*

It is evident that to arrive at any conclusion regarding the value of a certain line of treatment, some other method of investigation than that of mortality must be adopted, unless the opportunity exists to compare a large number of cases treated by different methods.

Playfair† has said: "The key to the management of women after labor, and to the proper understanding of the many important diseases which may then occur, is to be found in a study of the phenomena following delivery, and of the changes going on in the mother's system during the puerperal period."

A careful study and record of these same phenomena, more particularly with reference to the range of temperature during the lying-in period, offered the only means of investigation I could command. The result furnishes the key to the management of women during labor as well as afterwards.

The number of cases upon which I have based the conclusions offered, although numerically small, is amply sufficient to convey to my mind the value of antiseptic delivery. Moreover, these conclusions confirm the results of others, who have employed and who advocate this system of treatment. If this were not the case, I should hesitate to present facts based upon such limited experience.

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*"Treatment of Diseases of Women." C. H. Goodwin. Pp. 129—133. New York, 1884.

†"Science and Practice of Midwifery." 3d Am. Ed., 1880, p. 540.

Before taking up the study of these cases, let us ascertain what is considered the physiological temperature of the first week of the puerperium.

Soon after childbirth the temperature begins to rise, and continues to increase until the maximum is reached, about twelve hours afterwards. It declines during the second twelve hours, but does not quite reach the normal point for five or six days.

According to Schroeder,[*] "the highest temperature reached is, on an average, 38° C. (100.4°F.); it may be somewhat more, even over 39° C. (102.2° F.), without any actual disease being present."

Lusk,[†] following the teachings of Schroeder, allows a wide range within physiological limits of the temperature wave soon after delivery. If delivery is effected in the morning, he adds the usual rise of one or one and a half degrees following the act of parturition to the normal rise which takes place in the human body about 5 P.M., and, in this way, he witnesses an elevation to 102°, or even more, without uneasiness.

I cannot but think these conclusions were founded upon hospital experience. In private practice, at least, I have not been able to verify them. In cases observed by myself, the maximum point was usually between 99 and 100°, rarely beyond the latter figure unless instruments were employed.[‡]

A few days after this primary rise of temperature, usually about the third or fourth day of the peurperium, it is customary for a second elevation to take place, preceded, perhaps, by chilly sensations, and accompanied with pain in the head, aching over the body, thirst, distention of the breasts, and secretion of milk.

The first rise of temperature is attributed to the "production of heat through rapid metamorphosis of the uterus" (Schroeder); the second, to the awakening of the functional activity of the mammary gland, and is consequently termed "milk-fever."

Accepting the temperature wave *a* shown in the accompanying chart as that which represents the physiological range during the first week of the lying-in, we will compare with it *b*, which represents the average daily temperatures of twenty-six cases treated antiseptically during parturition.

The cases from which this average is obtained are not selected, but, with the exception of four, constitute the entire number treated in this manner.

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[*] "Manual of Midwifery." New York, Appleton & Co., 1873, p. 99.

[†] "Diseases of Women." Goodwin, New York, 1884, pp. 116 and 117.

[‡] Squire ("Puerperal Temperatures,' Tr. London Obstet. Soc., vol. ix. p. 120) does not recognize the occurrence of this primary rise of temperature. He says a slight elevation occurs as a result of the efforts of parturition, but it commences to decline after childbirth, and reaches normal or subnormal by the end of twenty-four hours.

Barnes ("System of Obstetrics," Am. Ed., 1885) likewise states that a slight fall has been noticed, twelve or twenty-four hours after labor. Observations, he says, made in hospitals which show a rise of over 5° F. cannot be accepted as normal.

Three of the four cases omitted were delivered with forceps, and, in the fourth, pneumonia developed on the third day after labor.

The highest point reached by any of the forceps cases was 100.4° F. This occurred at 4.30 P.M. of the second day.

The average temperature of the cases delivered without antiseptic precautions during the same time is higher, but selected cases of this class compare favorably with those treated antiseptically.

A rapid labor, or one in which the child was expelled shortly before my arrival, usually pursued a favorable convalescence without rise of temperature. As no vaginal examinations were necessary in such cases, they were as antiseptic as nature could make them.

The average temperature for the first day (98.3°) was taken, in every case, shortly after labor; consequently, it does not show the primary elevation which is assumed to occur within the first twelve hours. The termination of an easy labor, with a short second stage, was often marked by subnormal temperature, especially when delivery occurred between 1 and 6 A.M.

The particular feature of the record of these cases, and that to which I wish to call attention, is the absence of the secondary rise of the temperature wave.

If this elevation, which usually occurs on the third, fourth, or fifth day of the puerperium, is due to the secretion of milk, why should it not manifest itself in these twenty-six cases? The function of lactation was developed at the usual time and in the usual manner in all of them. Why should an antiseptic mployed in the vagina during labor prevent a rise of temperature subsequently, if that rise is symptomatic of the secretion of milk?

Although Cazeaux says*: "It is reasonable to believe that the swelling and painfulness (of the breasts) is the cause of the general reaction," he points out the fact that "certain females, even of those who do not nurse at all, have no milk fever whatever, and this notwithstanding that the breasts are considerably swollen and the secretion of milk is abundant." "This," he goes on to say, "is a much more common occurrence than is generally supposed, and I have frequently had occasion to point it out to students."

In another part of his work,† he again throws doubt on the connection between these two phenomena as cause and effect. He states: "Where the child's death takes place at an advanced stage of gestation, and the dead body is not expelled for several days afterwards, it is by no means uncommon to find all the phenomena of milk-fever manifesting themselves. In ordinary cases, by the time the fever is over, the breasts have acquired their highest degree of distention, and the secretion of milk is very abundant."

Now if, as Cazeaux says, we are to regard the swelling and painfulness of the mammary glands as the cause of the general reaction which usually occurs about the same time, what has the death of the child and its expulson several days afterwards to do with the earlier development of the fever? And why, if that is the cause, is the milk fever over at the time when the breasts have acquired their highest degree of distention? In other words, the result has passed off before the cause has come most actively into effect.

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*"Theory and Practice of Obstetrics," 7th Edit., P. Blackiston, Son & Co., Philadelphia, 1884, p. 436.

†P. 437.

Before setting aside this commonly accepted theory of the cause of the so-called "milk fever," let us inquire whether any better explanation is offered to account for the febrile excitement usual at such times.

I believe there is, and take the ground that it is due, first, to mild septic infection, accompanied or not by slight metritic or parametritic inflammation. This is the principal and in most cases the only factor. Others mentioned in the order of their importance are; second, traumatic fever; third, mastitis, and fourth, lactation.

The last factor may be disposed of by the admission that it is possible for febrile reaction to arise from the development of the function of lactation *per se.* It is to be sought for only in women with extremely sensitive nervous systems. Slight causes, such as mental excitement, constipation, indigestion, etc., may also occasion temporary elevations of temperature.

By traumatic fever is meant such reaction as might naturally be expected to follow lacerations and injuries of the genital canal received at childbirth. It has been demonstrated that the average puerperal temperature is higher in women who suffer from lacerations at childbirth than in those who escape such accidents, although the day upon which the highest temperature usually occurs is not changed thereby.*

The cause of the febrile movement is undoubtedly located in the mammary gland in some cases. In these instances, it can more properly be attributed to a slight degree of mastitis which ends without suppuration. The gland is congested, swelled, painful and tender; and who can draw the line and say just where this congestion ends and the inflammation begins? Take this description, by Cazeaux, of the condition of the organ when the function of lactation is beginning, and we cannot fail to recognize the existence of an inflammatory process.

He says: "During the febrile movement, which is generally slight, the enlargement of the mammæ continually increases, extends as far as the arm-pits, and involves the surrounding cellular tissue, whence the patient can no longer bring the arms down alongside of her body, and therefore has to hold them off. The skin is sometimes so stretched as to become painful and incommode the respiratory movements of the chest.† * * * * * *

The following quotation from Schroeder‡ leaves no doubt of his views on this question:

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*See paper read by Mr. E. S. Tait, "Observations on Puerperal Temperatures," before London Obstetrical Society, January, 1884.

†Ibid., p. 436.

‡Ibid., p. 375.

"As there are unmistakeable signs of a local inflammation, and as doubtless the fever is due to that inflammation, the name of mastitis may be reserved, as it is usually done for the suppurative inflammation, and the symptoms in connection with the commencement of the secretion of milk may be designated as 'milk fever.' Although the inflammatory state just described disappears in a great majority of instances, yet there are exceptional instances where, under unfavorable conditions, suppuration sets in."

Let us consider some of the objections that may be raised against the acceptance of these views.

It may be questioned: Why does the febrile rise occur coincidently with lactation, and why does it decline when the breasts are relieved? Why is it usually less pronounced in primiparæ? Why more so in those who do not nurse or who postpone the act: and again more so in those who have been kept on low diet or who have been exhausted by hemorrhage or other means?

In reply it may be said that the coincident occurrence of the function of lactation and the rise of temperature is more apparent than real. The two frequently occur on different days, while an interval of twelve hours between them is more often the rule than the exception. Even did they appear hand-in-hand, that would not prove conclusively that they were associated as cause and effect. During the first few days succeeding childbirth, the mother's system is in a condition of rest, as if placed in physiological splints. After a variable period, generally two or three days, reaction occurs, and she appears to awaken from this state of lethargy. A purgative overcomes the paralytic condition of the lower bowel; absorption by the lymphatics of the genital canal is most active, and milk is secreted.

The most dangerous period of the lying-in is reached. Fever under such circumstances can occur without being necessarily attributed to the process of lactation, and relief of the distention of the mammary gland can relieve the fever only in so far as inflammatory action of the gland enters as a factor in the case.

The same explanation will apply to the class of women who do not nurse, or who begin the maternal duty after some delay. It is also well known that the act of nursing assists in securing a well-contracted uterus, and Ahlfeld has demonstrated that the absorptive power from this cavity is much less when such a condition exists.

The same favorable state of the organ obtains likewise in primiparæ more than in multiparæ, consequently the former suffer less from this mild septic fever. On the other hand, it is to be remembered that primiparæ are more liable to suffer from traumatic fever. Exhaustion, whether the result of deficient food, prolonged labor, or hemorrhage, favors septic infection and intensifies its effects. Germs, which under an opposite condition of the system would be thrown off or rendered harmless, now gain access to the human organism and manifest their baneful influences.

Fortunately this evil influence, in the great majority of instances, is limited to a transient fever. *The difference, however, between this and the serious septic fever is one of degree only, and not of kind.* "If," says Barnes, "'milk fever' persists beyond twenty-four hours, it becomes puerperal fever."

The clinical picture presented is not inconsistent with such a theory. I have already endeavored to explain why this septic infection may be manifested at about the same time the secretion of milk appears. They both occur at the period of reaction. It is well known "that if a woman is infected during the last stage of her delivery, the first part of the puerperal state passes quite normally. * * * The first signs of the outbreak of the disease are observed in from thirty to forty hours after infection, usually on the second or third day after delivery." (Schroeder.)

The manifestation of autogenetic infection at this same period is thus explained by Barnes.* "About the third day is the epoch for the establishment of the absorptive process. The two days following labor are a period of rest. During this time the disintegration of the uterus and other superfluous structures is only beginning. The supply of waste stuff for absorption is scanty. This can hardly be a source of fever. And if there be any blood or other matter in the uterus, it will hardly decompose under two days or more, so as to yield septic stuff for absorption. But on the third day waste stuff is pouring into the blood; decomposition may have begun in the cavity of the uterus, and active absorption finds material to work upon. Thus it is that febrility occurs on the third day." The ephemeral nature of the fever is not proof against its septic origin. Experiments on animals have demonstrated that the disturbances soon pass off when the absorption of septic matter is not kept up. The poison is rendered innocuous or eliminated from the organism by the excretions which are so active at this period. A profuse sweat frequently terminates the febrile excitement.

To repeat: the fever often met with about the third day of the puerperal state, commonly called "milk fever," is in reality due, in the vast majority of instances, to septic infection.

It may, however, be partly, in some instances wholly, a symptomatic fever, expressive of inflammatory action, seated either in the genital canal or mammary gland, or both.

Consequently any rise of temperature above the normal point occurring after the first day of the puerperal state must be considered pathological.

During the discussion of Dr. Garrigues' paper on Puerperal Diphtheria, read before the recent meeting of the American Gynæcological Society, Dr. Lusk remarked that, since antiseptic delivery had been adopted, the hospital patient no longer had milk fever, and so great and favorable was the change effected by the practice, he now considered women were safer delivered in hospital than at home surrounded by all the comforts of life.

This confidence in the value of antiseptics in obstetric practice is shared by all who have had experience in its employment. The introduction of the treatment has so reduced the maternal mortality that, for my part, I believe it is no exaggeration to say that, with the exception of small-pox, there is no disease so preventable as puerperal septicæmia.

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*Ibid, p. 718.

An interesting debate on this subject is printed among the "Transactions of the Obstetrical Society of London."* Dr. Matthews Duncan is reported as having said that the subject of antiseptics in midwifery was the most important of all in the whole obstetric department, but it was receiving very little attention. "The subject was greater than the prevention of epidemics which came occasionally, while puerperal deaths were constantly occurring in the most valuable members of the community."

Dr. John Williams said that, although we could not overcome by antiseptics all the evils of pregnancy and labor, we may hope to abolish the deaths from puerperal fever. To do this would be to reduce the mortality in childbed to ¼ per cent., or 2.2 per thousand.

Dr. Playfair stated that in his own practice antiseptics were as rigidly enforced as it was possible, and he supplied his nurses with cards having printed upon them rules for carrying out the treatment. He was confident that not one man in one hundred used antiseptics in any thorough way.

In conclusion, I wish to state briefly the method adopted by myself for the purpose of securing antiseptic delivery. Simplicity is the first consideration. A stiff nail-brush and a box of powders, each powder containing half a gramme of bichloride of mercury, is all the preparation necessary. After entering the bedroom of a woman about to be delivered, no vaginal examination is made until the hands have been cleaned in the following manner:

A solution of bichloride of mercury 1 to 1,000 is made by dissolving one of the powders in a pint of warm water, and the hands are thoroughly scrubbed in it with the nail-brush. All dirt is then removed from beneath the finger nails, and a second scrubbing given the fingers of the examining hand before they are ready to be introduced into the vagina. No lubricant is used. Examinations are not repeated unnecessarily, and every time one is made the hand is previously soaked in the antiseptic solution which should be kept in a basin near the bedside. Occasionally the use of the nail-brush should be repeated. The accumulation of bloody mucus around the vulvar orifice must be prevented by bathing the part with the antiseptic solution.

After the birth of the infant, two important rules are kept in mind: to secure firm contraction of the uterus, and not to introduce the finger into the vagina.

A teaspoonful of fluid extract of ergot is administered, the fundus of the uterus followed down with the hand, and the placenta expelled by compression.

It often happens, in consequence of the exertion caused the woman by removal of the soiled linen, that a uterus which had been firmly contracted becomes relaxed, and the fundus reaches as high as the umbilicus. To avoid this, the woman should be moved about as little as possible while being changed, and pressure must be kept up on the uterus until she is ready to be bandaged.

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* See *Am. Journ. Obstet.*, vol. xviii., No. ix., p. 989.

If the uterine tumor becomes enlarged in spite of these precautions, or if there is any tendency to excessive flow, I give a vaginal injection of a solution of the bichloride (1 to 4,000) as hot as it can be borne, and during its administration squeeze the uterus in order to secure firm contraction of the organ, and to press out any blood-clots from within the cavity.

When the surgeon has performed an operation according to antiseptic rules, he does not remove and reapply his dressings two or three times a day for the purpose of washing the surface of the wound with an antiseptic lotion. On the contrary, the dressings are put on and left until the wound is healed. And so, after this treatment has been carried out, the use of vaginal injections during the puerperal condition becomes unnecessary.

The truth is, unless specially called for, they may do harm in other ways than that already mentioned. Not only may germs be conveyed into the vagina by the nozzle of the syringe, or by the unintentional admission of air, but the tube, introduced ever so carefully, may destroy recent granulations which are Nature's barriers against the admission of septic matters into the system.

The only after-treatment advisable is cleanliness. The vulva should be washed several times a day with a warm antiseptic fluid, using for the purpose either a syringe or a soft linen cloth. Sponges ought to be banished from the lying-in chamber.

An unpleasant odor to the lochia demands the employment of antiseptic vaginal injections. The development of fever after the first day is to be considered pathological; the cause must be looked for, and appropriate treatment begun without delay.

It is not within the limits of this paper to consider the more complicated antiseptic precautions which may be demanded in certain cases. When operative interference becomes necessary, or when puerperal septicæmia is prevalent, the same care is called for that should always exist during the delivery of women surrounded by hospital influences.—*American Journal of Obstetrics.*

SYNCOPE OR ANÆMIA OF THE BRAIN A CAUSE OF ASPHYXIA NEONATORUM, AND ITS TREATMENT.—By Geo. H. Noble, M.D., Atlanta, Ga.

There has been a great tendency to overlook the cause in the treatment of asphyxia in new-born children, which is due probably to the presumption that it is a delay on the part of the lungs in performing the first inspiratory act. The problem then was how to start it.* This was supposed to be solved in the employment of artificial respiration and excitation by reflex action, etc., as they seemed to keep the heart acting until things could right themselves.

The result was a practice, more or less routine, energetically and often imperfectly applied.

It is true the pathology has been studied, but so far it has done but little in

*Barnes: "System Obst."

directing a remedy to the cause. It is therefore that the influence of two cases I have recently had may be turned in this direction that I desire to report them.

CASE I.—The mother of the first case was a primipara. The liquor amnii had escaped eighteen hours before I saw her. The contractions were frequent, forcible, and of long duration. The os was rigid and undilated. One-fourth of a grain of morphia sulphate was administered hypodermically, from the effects of which dilation went on readily. Labor then continued, with the fœtus in the first cranial position, without any *very* great difficulty.

The fœtal heart could not be heard before delivery, which fact, taken in connection with the long contractions, caused a prediction of "suspended animation."

The pulse of the cord was weak, the muscles were flaccid, and the surface was pale. Friction, hot and cold water, flagellation, inflation, artificial respiration, and other means of resuscitation, failed to revive the child, after a trial of forty minutes or more. The surface grew paler, and the umbilical pulse grew weaker and weaker and finally stopped. The cord was then tied, and the heart auscultated; an occasional beat (one in about six or eight seconds) could be heard. Attempts to revive the child were resumed without success.

It occurred to me that there might be an anæmic condition of the brain, and having its relief in view, I put the baby in a perpendicular position, with its head downward. In a few moments it gasped; this added encouragement to my efforts, and I again began artificial respiration. Failing in this, I returned it to the inverted position, in which it made other attempts at respiration. I then brought it to the horizontal position to see if it would continue its efforts to breathe, but it did not. Other methods were again employed, but in vain. Then for a third time it was placed heels uppermost, and a third time it began to breathe; the heart's action increased in frequency, but as soon as she was removed from this position, the respiration ceased, and the interval between the heart-beats grew longer.

By this, I was convinced that the influence of gravity upon the blood was the only favorable thing that I could bring to bear upon the case, so I accordingly wrapped it in a woolen cloth, and directed the nurse to hold it head downwards, alternately turning the face and the occiput to the fire. In about an hour, the circulation and respiration were acting normally, and the baby was crying loudly.

CASE II.—The second case was also the child of a primipara. There were no marked deviations from natural labor other than a very great overlapping of the cranial bones. The head was large and the occiput became very much pointed in moulding. The membranous portion of the posterior fontanelle could not be detected during labor, but the day after measured an inch and one-fourth in its greatest diameter.

The child was in the second stage, or pale asphyxia, as the surface was pale, the skin was cold, the sphincters and other muscles were relaxed, and as no reflex action did occur, in this instance as in the other, the most and the best of the many methods of revivification were plenarily applied, but without the desired results, and doubtless much valuable time was lost and detriment effected in their employment, as it became necessary to resort to gravitation of blood to the brain to engender the desired end. It came, however, but slowly, for three-quarters of an hour had passed before he was *breathing well*, making in all an hour and a half from the time of his birth.

It was afterwards handed to the nurse, who, in dressing him, placed him in a sitting posture; the result was an expungence of all that I had done, or the secondary asphyxia of Marshall Hall. The case then seemed hopeless, but, notwithstanding, I fixed him head downwards, with the happy result of again restoring him to life.

These cases plainly demonstrate, I think, the want of blood in the brain. In each time, it was allowed to flow away from that organ; in the first case, all attempts at respiration ceased; but, to the contrary, efforts at respiration were induced each time the blood was permitted to gravitate to it. And the second case was twice revived in this way.

The nervous centres from a deficiency of blood were unable to recognize and respond to the stimulus that ordinarily would have excited respiration. The cause of which, in the first case, was likely due to the feeble action which in turn was produced by the frequent long contractions of the uterus.

In the second case, it was due to compression of the brain in labor, as the heart's action was good (but afterwards grew feeble), and the pulse full; and as "paralytic" (or "pale") asphyxia *is* produced by compression and other injuries to the brain and medulla oblongata. This is especially apt to occur in labor with disproportion, under delivery by forceps or by turning.

*Syncope has been invoked to explain some of these cases.**

The secondary asphyxiation must find its explanation in the inability of the weakened heart to pump the blood to the brain, with the child in the sitting position.

Believing, then, anæmia of the brain, or a condition of syncope, to be a pathological factor in some cases of asphyxia neonatorum, I would advise, for its relief, the ready method that I employed in the foregoing cases, viz., the gravitation of blood to the brain.

Doubtless, this is the explanation for the return to life of those babies cast aside as dead; for it is more than possible that they may have unconsciously been placed with the head lower than the body.

The advantages that are claimed for this treatment are:

1. It enables you to employ any other method in connection with it.
2. It is totally void of violence—a matter well worthy of consideration. The last edition of Barnes' "System of Obst." says: "We often do harm, and doubtless many would live if left to themselves. Violent or prolonged artificial respiration works much detriment, and may even fan out the last spark of life."
3. It induces the escape of such fluids as may be in the air passages—a matter of prime importance, especially in cases of intrauterine respiration.
4. Where there is a circulation of blood through the foramen ovale, it substitutes the purer blood of the vena cava ascendens for the venous blood of the vena cava descendens.
5. It gravitates the blood to the lungs, which, there distending the blood-vessels, causes additional stimulus to respiration.—*Ibid.*

ON A CAUSE OF UTERINE DISPLACEMENT, NOT HITHERTO MENTIONED, CONTRAINDICATING THE USE OF PESSARIES. By J. Braxton Hicks, M.D. Lond, F.R.S., F.R.C.P.

I write subject to correction, but I believe the cause about to be mentioned of uterine displacement and flexion has not been remarked upon, and yet it is not so very rare. Briefly stated, the concavity of the abdominal walls, noticea-

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* Barnes: "System Obst.," p. 631.

ble in many spare women, will not permit the uterus to take its proper position in the pelvis, but, acting chiefly through the agency of the bladder more or less upon its fundus, pushes this portion back towards the promontory of the sacrum in a much more marked manner than occurs in a normal state, ending in flexion if the uterus be soft and its attachments to the front of the pelvis fairly firm. Again, if the uterus be tied by adhesions, or be already anteverted more than usual, then this condition is still more increased, and the bladder, unable wholly to rise above the uterus, expands by one arm of its Y-shaped cavity in its empty state above it, thus pressing the fundus down, and the other arm distending beneath the uterus tends to increase the anteversion, pushing up the lower end, thus increasing in two ways the anteversion. So that if the catheter be passed the fundus will be found projecting into the back of the bladder and closely opposite to the sphincter, preventing it easily entering, while it readily passes above and below to the full extent, and thus the functions of the bladder are materially interfered with. As most of these cases occur in single women, the uterus is generally held to the pubic segment of the pelvic floor fairly firmly; but in those who have been delivered the laxity of these front attachments permits the bladder to push the uterus backwards and downwards, so as to bring the back of the uterus in close contact with the anterior wall of the rectum.

In books of anatomy and obstetrics it is stated that the fundus of the uterus reaches to the level of the upper edge of the pubes. This may be taken as generally correct, though from clinical observation I should be inclined to say that it not infrequently rises a little above the plane of the conjugate. The abdominal walls, springing from the edge of the pubes, curve rather forward, and thus do not interfere with the distension of the bladder, at least not to any great extent; nor in the empty state of the bladder with the position of the uterus of normal anteversion; though when the bladder is full it retroposes the uterus towards the sacral promontory. In the condition, however, of the abdomen walls above alluded to, and described in my paper on Abdominal Tension*—namely, of extreme retraction,—the walls become concave and are in close contact with the brim nearly throughout, in some cases resting nearly closely on the anterior surface of the iliacus and psoas, pressing to a not unimportant extent the viscera, etc. And thus it will readily be understood how that, as the bladder is being distended, unable to rise upwards, it pushes the uterus back to a degree to be measured by the difference of distance between the present incurved line of the inner surface of the walls and their former normal state. The uterus thus in course of time assumes a position with its axis approaching that of the conjugate of the middle of the pelvic cavity, the os in the retroposed position being somewhat apparently elevated, but pointing forwards, except when, to a certain extent, it becomes flexed. There is not much space between the rectum and the back of the uterus, and when fæces accumulate, as they are apt to do in this starved state of the system, they are more or less closely in contact. As I have pointed out, the pressure the walls exert is considerable—some of it due as it appears to me, to a kind of permanent contraction of the muscles. This retraction of the walls could not take place without the absence of gas in the intestines; possibly the more solid contact of the inner face of the walls against the firm structures behind sets up a kind of chronic spasmodic state.

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* Medical Society's Proceedings, 1884.

I am inclined to think that the uterine dartoid-like attachments are in a state of irritability also. That they are at times capable of this action I have no doubt, and this serves to explain the varying opinions of those who have seen the same case at different times, and it has its parallel in the action of the homologous dartoid tissue which causes retraction of the testicle. That all this can occur without some sort of uneasiness would be wonderful, and this it is which leads the patient to seek medical aid. Generally the patient is of a neurotic temperament, ill nourished, badly feeding, and much complaining; nor is this perhaps to be wondered at, seeing that owing to this incurved state and pressure the abdominal viscera are displaced and interfered with in their movements and functions, thus producing uneasiness, often visible on the face. Accordingly the medical attendant necessarily finds it a difficult task to determine whether the ailment had originated in the uterus, as a cause of reflex bad appetite and nausea, or not. If the pelvic region is much complained of, or if the medical man is over-intent on uterine maladies, he would very possibly be led to examine the uterus, and, finding the organ out of place, might be led to think this the prime cause, and to attempt to correct the displacements by mechanical means. Again, if the digestive organs were most complained of, the cause of the pelvic distress might be overlooked, or attributed to ovarian irritation, or to the constipation, to neuroses, or to fancy. Supposing, then, that in the course of treatment attempts are made by the medical man to correct the position of the uterus by pessaries, the same forces which pushed the uterus into that position he will find now to resist his efforts, and although he may be able to restore the organ in part and get the pessary into place, he will find it will not—as it cannot, indeed—properly act, and that the patient, instead of being relieved, is more uncomfortable.

The same remarks apply to both conditions whether retroversion or anteversion: so long as the abdominal walls remain in the same incurved state above described, it is difficult in most cases to elevate permanently the fundus; indeed, all attempts generally increase the distress, and the uterus shortly regains its former position.* In this retracted condition of the walls, the ovaries also along with the uterus suffer from the pressure and restraint of free movement, without which none of the viscera can work painlessly and perfectly; but when pessaries are employed, these are almost certain to be brought in contact with the ovaries, and consequently much distress is felt; and this is naturally most severe when rigid pessaries are used, such as are made of vulcanite, coralline, or metal—the kinds most likely to be used in these difficult cases. In some of these cases it is probable that the uterus was already retroposed or anteposed—*i. e.*, before the retracted state of the walls occurred; but the clinical aspect of the case is the same whatever the order of arrival. From a survey of this state of things I think it will be conceded that the uterus has assumed the position of neutrality to the forces existing about it, and that the treatment should rather be directed to remove these abnormal forces than to drive the uterus in antagonism to them, and thus place it, as it were, between the upper and nether millstone.—*Lancet.*

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* It may be wise in some cases of anteversion to try if any benefit may be derived from retroposing the uterus; but this should be done by a sound rather than by a pessary.

THE TREATMENT OF FRACTURES OF THE RADIUS. By R. J. Hall, M. D., New York.

At the outdoor department of the Roosevelt Hospital a not inconsiderable number of fractures of the lower end of the radius present themselves which have already been seen by physicians in private practice, and after the reduction of the deformity and the application of an apparatus, have been referred to us for further treatment, because the patients are impecunious; or which have received the first care of some other hospital or dispensary, and are sent to us because the patients reside in the neighborhood. In this way, and through conversation with various surgeons and physicians in the city, I have had opportunity to note the different modes of treatment adopted by a great number of surgeons, and in a number of the hospitals of the city.

In the claim of a particular apparatus, and the treatment of the fracture, two ideas seem to me to have special weight with New York surgeons. First, that by leaving the wrist and hand free, and allowing it to fall into a position of adduction, we at once reduce the displacement of the hand toward the radial side, and prevent the partial ankylosis of the wrist and rigidity of the tendons and small joints of the hand, so much dreaded in this fracture; and, second, that to avoid this latter condition it is necessary and advisable to commence passive motion at an early period, long before the consolidation of the fracture, and to continue this during the healing process.

A conviction, founded on both theoretical considerations and on a considerable practical experience, that both these views are incorrect, is my only excuse for bringing so well worn a subject to the notice of the Society.

It will, probably, be a relief to the minds of my hearers to know that I have no new apparatus to present, no new mode of treatment to propose, and that I do not claim to cure all cases without deformity or ankylosis.

My only object is to express my conviction that certain precautions usually considered necessary are not generally so; and that, in the case where the dangers feared are real, the precautions taken are, at best, useless and often injurious.

In clinging to the conviction that adduction of the hand, maintained either by its own weight, as in the methods of Clein and Bramsby Cooper, or by the pistol-shaped splint of Gayrand or Nélaton, our surgeons are scarcely to be excused, since the fact that this treatment is founded on a false view of the nature of the displacement, and is useless to overcome it, has been fully demonstrated by three, at least, of the authorities most frequently consulted, Malgaigne (*Traite des Fractures*, etc., t. i. p. 616), Hamilton (*A Practical Treatise on Fractures and Dislocations*, p. 300), and Stimson (*A Treatise on Fractures*, p. 460).

For the practice of leaving the wrist and hand free, to allow of active and passive motion, or of removing the apparatus at short intervals during the consolidation, for the same purpose, much more weighty authority can be cited. Indeed, almost all the authorities insist upon the importance of one or other of these measures. As instances, may be cited Malgaigne (op. cit., t. i. p. 617), who allowed the splints to descend only as far as the first row of carpal bones, in order to be able to make moderate movements. V. Pitha (*Handb. der allg. und spec. chir.*, Billroth and Pitha, Bd. 4, Abt. 2, S. 102) advises the same. Hamilton (op. cit., p. 309) seems to advocate complete rest, as a rule, but states that when the fracture extends into the joint, early passive motions must be made to prevent ankylosis. Erichsen (*Science and Art of Surgery*, vol. i. p. 575) says: "After the first week it is well, especially in elderly people, to leave the fingers free, and to encourage movement of them, lest that painful stiffness result which is so common a result of the accident. Passive motion of the wrist-joint may, however, often be commenced with great advantage to the patient before the union of the fracture, more particularly when it is impacted," and predicts very troublesome stiffness if the hand and fingers be kept fixed during the whole time. Packard (Ashhurst's *Internat. Encyclopædia of Surg.*, vol. iv. p. 177) advises that passive motion should be made only in exceptional cases "where there is a strong tendency to stiffening, such as sometimes occurs in old people, or where the violence producing the injury has been very great." Stimson (op. cit., p. 184) recognizes the principle that immobilization is indicated, as a rule, in injuries involved close to joints; but adds, "in the smaller joints of the hand the case is different. There the extended position and immobility favor stiffening, even when the fracture involves only the forearm or arm; and, therefore, should be left free, or dressed in the fixed position and moved every day." And again (p. 146), "the indications are of two kinds: to mobilize the fragments, and to allow passive and voluntary motions of the fingers, in order to prevent or diminish their subsequent stiffness."

Schede (Zur Behand. des typischen Bruches der unteren Radiusepiphyse; *Verhand der Deutschen Gesell. fuer Chir.*, 1882, p. 68) recommends that the fingers should be left free and the patient encouraged to make active and passive motions with them, and that the splints should be removed every eight days to allow of passive motion, removing them finally in three weeks. The discussion which followed turned rather on the relative merits of various splints, especially as compared with plaster-of-Paris, rather than on the question of early motion; but Schueller, Langenbeck, and Billroth stated that they always used plaster as a permanent dressing, leaving the fingers free, and without ever seeing stiffness as a result. Billroth stated that the cases in which there was a tendency to ankylosis and much stiffness were those due to great violence, the fracture penetrating the joint, or with great effusion of blood and inflammatory products.

It will be observed that some of the authorities quoted above advocate early motion only in the most severe cases. If, however, the principle which I advocate is correct, that motion of an injured joint and of the parts surrounding it will only increase the inflammatory process, give us a greater quantity of provisional callus, and cause more effusion into ligaments and sheaths of tendons, with consequent greater subsequent rigidity, it follows that the worse the case the more harm will be done by disturbing the parts, and the stronger indication we have for more perfect and prolonged immobilization. Some, as Stimson, advocate fixation of the wrist, but leave the fingers free, and consider active and passive motion of these of great importance.

Like almost all surgeons, I leave the fingers free also, but merely because this allows them to fall into a natural and easy position of flexion, and the hand being enclosed in splints and carried in a sling, the patient is under no temptation to attempt much motion.

That fixation in the constrained and unnatural position of complete extension should cause rigidity and discomfort, I can well understand, and have often had opportunity to verify by observation; but if immobilization be advisable in cases of injury to larger joints, or in their neighborhood, I know of no reason why it should be injurious in the case of the smaller.

As matter of fact, I have frequently, in the treatment of fractures of the metacarpal bones with sinking in of the knuckles, kept all the fingers flexed over the end of the padded splint, and completey immobilized for a month continuously, and have never noticed the slightest stiffening as a result.

Verneuil (*Bull. et Mem. de la Société de Chir. de Paris*, t. 5, *p.* 487) combats with great ability the idea that ankylosis of an inflamed or injured joint is promoted by immobilization; shows that prolonged fixation of a healthy joint has never been known to lead to such a result; that the ankylosis is due to the inflammation of the joint and of the surrounding parts, and that the first requisite for preventing or subduing inflammation here as elsewhere is complete rest of the part.

In giving the mode of treatment adopted by us in these fractures, I would not be understood to advocate the particular kind of splints applied as better than any other in which the same principles of treatment are recognized—they have been used merely because they are cheap, and readily and rapidly applied. Neither have we found one mode of treatment applicable to all cases; where there has been a great tendency to recurrence of the displacement, special means have occasionally been necessary to prevent this. The cases of which I have histories represent really only a small proportion of those treated at the Roosevelt Hospital during this time; they are, however, by no means selected cases. If there has been any selection, it has been of the more severe cases which demanded my personal attention.

In a large number of cases no history was taken, because deformity, crepitus, and mobility were absent, almost the only sign of fracture being the great tenderness on pressure. Were these cases included, it would be open to anyone to question a diagnosis made on such grounds. These cases, however, have always given a perfect result as regards freedom from ankylosis and stiffness.

A certain number of other cases have not been recorded, owing to the pressure of work and to the confusion incident to moving from crowded quarters to a new building.

Of seventy-one cases in which histories have been kept, eight are useless, because no statement is made of the condition of the parts at the time of discharge, sufficiently definite to be of value. Twenty-eight disappeared before the splints were finally removed. This leaves forty-one cases in which the exact result has been carefully noted.

The principles of treatment have been the following: Complete reduction of all deformity when patient is first seen. In only one case was it necessary to give ether to accomplish this.

Application of antero-posterior splints extending from the elbow to the metacarpo-phalangeal articulation.

Inspection of the parts at intervals of two or three days, during the early part of the treatment, and later at intervals of a week.

In two or three cases only the simple antero-posterior splints have not sufficed to retain the parts in position, when we have applied either Roser's apparatus, or long dorsal splint, with a wedge-shaped pad, keeping the wrist flexed, or strong iron strips, bent so as to give flexion with slight adduction.

The splints have been kept in place for from four to five weeks, no passive motion being made.

When the splints have been removed, the arm has been examined by all the surgeons present, usually at least three or four, often more, and the result noted as perfect only when all were agreed.

The patient has usually been instructed to carry the arm in a sling for a week longer, and not to attempt any laborious work for at least three weeks more. Of these forty-one cases the result as regards absence of any deformity, and either perfectly normal movements of the wrist and fingers, or so little stiffness that the functions were practically normal, has been recorded as perfect in thirty-one.

A similar result as regards motion, but with slight deformity, has been noted in five more cases. In one of these the patient had not presented himself from the time the splints were applied until the day on which they were removed.

In another case it is noted that active motion at the wrist is slight, but passive motion perfect, and very slight deformity. In another case, in which the injury was due to great violence, the impaction of the radius was so firm, and the displacement of the ulna so marked, that etherization was necessary, and even then the deformity was reduced with great difficulty, and not quite perfectly. When the splints were removed, dorsal flexion was fair, palmar only to a slight extent, due, it is noted, to the severity of the original injury and the flexed condition in which it was necessary to keep the wrist to prevent a return of the displacement. Finally, we have three cases in which slight or well-marked silver-fork deformity resulted with, in two, marked displacement of the hands toward the radial side.

In one of these, a man of seventy-two, an active eczema was developed under the splints immediately after their application, so severe that the patient would tolerate no apparatus whatever. No rigidity of the wrist or fingers occurred.

The other two patients were discharged after the usual treatment, the result being noted as very good. Being again under observation some months later, slight silver-fork deformity was noted with well-marked displacement of the hand toward the radial side. In one of these there was reason to believe that the deformity was due to disregard of our instructions, as to undertaking hard work immediately after removal of the splints. I had a similar experience some years ago when, after discharging an elderly woman at the end of four weeks with a very good result, in defiance of my instructions she at once commenced hard work at a scrubbing board, and presented herself some three months later with one of the worst deformities that I have ever seen. I would call attention to this as being one of the ways in which blame may be unjustly attached to the surgeon.

In the third case, besides deformity, there was decided weakness of the flexor muscles of the hand, apparently due to an effusion into the sheaths of the tendons. I am at a loss to account for the late appearance of the deformity, as the patient really seemed to have done no work since his discharge. He was receiving a weekly allowance from a society, and the continued weakness may have been due to long-continued voluntary disuse of the muscles.

I am far from maintaining that good results may not be attained in particular cases by the methods which I condemn; but, holding, as I do, that the principle of early passive motion for injuries near to or involving joints is wrong, I must regard them as having been attained in spite of, and not in consequence of the treatment.

As incidental points of interest in these cases, I may mention that in three the fracture was distinctly stated to have been produced by forced palmar flexion. In two of these the deformity had been partially reduced before the patients were seen, so that I am unable to give the direction of the original displacement. The third, a very intelligent man, who gave a clear and positive account of how the accident occurred, presented the silver-fork deformity of a typical Colles. One case presenting the regular deformity was alleged to be due to direct violence, a heavy board having fallen on the wrist.

Another, a man, presented himself with an unimpacted fracture of the lower end of the radius, and no deformity. On touching the parts, a violent spasm of the extensors of the thumb and of the radial extensors of the wrist threw the parts into a perfect silver-fork position, the spasm causing severe pain and lasting several seconds. This could be made to recur a number of times, and be carefully observed.

One case presented an oblique fracture running from above and internally downward and outward into the joint, so as to chip off a triangular fragment from the internal portion of the lower end of the radius; the fragment, of course, did not include the styloid process.—*Medical News.*

RÉSUMÉ OF ORIGINAL ARTICLES.

IN OTHER JOURNALS.

PRESIDENT GARFIELD'S CASE.—In a communication to *The Medical Press of Western New York,* Prof. Frank H. Hamilton calls attention to the following remarks of the editor of that journal, published in the January number: "It is not so long since the occurrence of a case, where the possibility of recovery after a gunshot wound of the lumbar vertebræ was discussed as a matter of international interest, that the subject has been forgotten. A renowned foreign surgeon, Esmarch, was by many taken seriously to task for uttering the belief that in this particular case the wound was not of necessity fatal, although he showed that similar wounds in many of the lower animals were recovered from. Recently a case has been reported by Albers (*Deutsch. Militärzlch. Zeitschft,*) which must forever settle this question. It is, in other words, the first case of the kind recorded in surgical literature."

Dr. Hamilton then goes on to say: It is not correct to say that the subject of international interest which was discussed was "The possibility of recovery after a gunshot wound of the lumbar vertebræ." Recoveries after gunshot injuries of the processes of these vertebræ have been too frequent to admit of denial, and I may be permitted to assume that you meant to refer only to gunshot wounds of the *bodies* of these vertebræ. But with this qualification, the "international" discussion is not correctly stated. The possibility of recovery after a penetrating, but not perforating, gunshot wound of the body of a lumbar vertebra has been established. The actual international questions were—

First—Has any human being ever recovered after a perforating gunshot wound of the body of a lumbar vertebra?

Second—Could Mr. Garfield have been possibly saved?

You have yourself answered the first of these questions correctly and fully when you say, this case of Albers is "the first case of the kind recorded in surgical literature," if by this you mean recorded and established, and if the case of Albers can be considered established—that is, confirmed beyond all possible doubt. I have myself reported (*Med. Record*, 1867, *II.*, 401) the case of a soldier wounded March 16, 1865, the ball "perforating or possibly grooving the anterior surface of the body of the second lumbar vertebra." Six months later a small fragment of bone escaped. Subsequently I found the ball under the skin, upon the opposite side of the body, and removed it. His recovery was complete. At first, and for some months after the receipt of the injury, he was paralyzed in his lower extremities; and when, after the removal of the ball, I brought him before the New York Pathological Society, there remained a slight paralysis of the bladder, and there existed a marked projection of the spinous process of the second lumbar vertebra, apparently occasioned by a change in the form of the body of the corresponding vertebra. It was the opinion of all the members of the Society present that the vertebra had been struck by the ball, and probably perforated. Notwithstanding the strength of the evidence in this direction, and which you cannot fail to see was quite as strong as the evidence in the case reported by Albers, a doubt has been thrown upon the accuracy of the diagnosis by the subsequent pension office examinations; and as he died and was buried without an autopsy, the diagnosis remains unconfirmed.

There are, I believe, no other cases upon record except these two—my own and that reported by Albers—in which recovery from such an injury has been *claimed* by the reporter; neither of which cases were known to Esmarch; and, notwithstanding the fact that after a dilligent and prolonged search in the surgical museums in the world, no such specimen has been found whose history corroborates his statement, Esmarch says: "In military surgery there are examples enough of recovery from similar injuries." He makes, however, no specific reference to examples, or to authorities, to prove the correctness of his assertion; unless we are to consider as authority his statement that "every hunter knows that the stag mostly survives a peculiar shot—the so-called *hohlschuss*." "The ball, in this case," he adds, "must go directly through the vertebral body itself." "The hohlschuss is considered to be a bad one by the hunters, because by it they do not secure the game.' The animals thus wounded get up and run away. If so, how do the hunters know that the stag has been shot through a lumbar vertebra? or that he has been shot through any vertebra? or, indeed, that his spine has been hit at all? or that he recovered? and, if this gossip of the deer-hunters were true, does it prove that what happened to a stag, whose vertebræ are many times larger than human vertebræ, must of necessity happen when a human being is wounded? No man, who claims respect for his own opinions, should utter such nonsense, and call it scientific and conclusive testimony.

The second question, "Could Mr. Garfield have been possibly saved?" was rendered "international" only by the fact that Esmarch, of Kiel, said to his students that he might have been, if his surgeons had properly performed their duties. No other surgeon on the other side of the Atlantic, so far as I have been able to learn, dissented from the practice of the surgeons in attendance, or publicly declared that recovery was possible. On the contrary, with a most remarkable unanimity, with the exception of the voice from Kiel, surgeons and medical journals declared, after the disclosures of the autopsy, that the case was, from the beginning, utterly hopeless. And with the same unanimity they gave their unqualified approval of the treatment.

Observe that the second question is not, simply, "Is a perforating gunshot wound of the lumbar vertebræ necessarily fatal?" but was it necessarily fatal, as you have properly stated it, "*in this particular case?*" the injury to the spine being associated with a fracture of two ribs, the scattering of the minute fragments of the broken vertebra into the adjacent tissues, where they were beyond the reach of the surgeon, and a lesion of the splenic artery, from which resulted the formation of an aneurism, and the rupture of which was the immediate cause of death. This was the "particular case" in question, and of which Mr. Esmarch said, first, that if the surgeons first called had not sought for the ball with uncarbolized fingers and instruments; second, if the surgeons called on the second day—Drs. Agnew and Hamilton—had not probed with uncarbolized instruments; third, if the subsequent management had been conducted antiseptically; and, fourth, if proper drainage had been secured, with a few minor considerations, the patient might have been saved.

Dr. Wm. Hunt, of Philadelphia, to whose "Annual Address before the Philadelphia Academy of Surgery" in 1883, I am wholly indebted for what was said by Mr. Esmarch, and for several well pointed criticisms upon his comments, has very aptly said of the first accusation: "Railroad stations, as a general thing, do not keep twenty to forty per cent. solutions of carbolic acid on tap." As to the second charge or indictment, Mr. Esmarch was incorrectly informed by an unofficial and unauthorized report made by Dr. Bliss to the *Medical Record*, and which error of statement he subsequently corrected. The facts are, that a probe was put into my hand, but seeing that the orifice of the wound was hermetically closed by a dry clot of blood, I declined to introduce it, partly because there was danger of renewing the hemorrhage, which had already been alarming, and partly because I was satisfied that a sufficient search had already been made by those who were first called. I handed the probe to Dr. Agnew, and he also refused to introduce it. Thereafter no person introduced a probe into the wound until suppuration had commenced, and never for the purpose of searching for the ball, since it was well understood to be beyond reach. Third, carbolic acid was employed vigorously, according to the teachings of Mr. Lister, in spray and in solution, from the earliest moment that it could be obtained and applied, and until a late day of the treatment, when, under the suspicion that it was exerting a septic influence, the potassic permanganate was substituted as a means of injecting and disinfecting the sinus; and, finally, drainage was secured by posture, drainage-tubes and a counter-opening, as far as it was found practicable to do so. In short, as far as possible, everything was done which Mr. Esmarch thought ought to have been done, and everything was omitted which he thought ought not to have been done.

Really, the only international question, or, in other words, the only question between Mr. Esmarch and his cis-Atlantic neighbors, was between him and those few American "physicians" (Esmarch) who, contrary to the opinion of Mr. Garfield's surgeons, thought that the ball could have been, and ought to have been, cut out. To this small number of American "physicians" (Esmarch), he administers the following parental reproof: "It appears, therefore, that our colleagues on the other side of the ocean have not regarded *our* admonition as to the leading principle in the first treatment of gunshot wounds: 'Do no harm.'" "Practicing American '*physicians*' seem, under the pressure of public opinion, to have assented to the proposition that much too little was done; but, according to my view, they did not do too little, but much too much." "The public, indeed, think that the ball is the most dangerous thing, and the soldier is happy when the ball which has been cut out of him has been placed in his hands. The *surgeon*, however, knows that the ball itself, in most cases, does no harm. The real injury is what it has inflicted in its course, and what is superadded comes mostly from the fingers of the examiner."

American *surgeons* have not, during the last twenty-five or thirty years, been without experience in gun-shot wounds, and scarcely need to be advised by their trans-Atlantic brethren on the matter of their treatment. To them there is nothing new in Mr. Esmarch's teachings; and nothing which, in common with Mr. Garfield's surgeons, they have not practiced.

Finally, in view of the fact that Mr. Esmarch has thought it proper for him to criticise, in all of its details, the treatment of a case which he had never seen, and of the correctness of which treatment, he as a surgeon, knows he could not so well judge by any written description, as he could have judged if he himself had been in daily and almost hourly attendance;—in view of the fact that those who had been invited to assume this responsible duty were, to say the least, his peers in experience, if not in reputed ability (and this I am permitted to say without including myself);—in view of the fact that there is a total lack of evidence of the correctness of his statement and positive assertions as to what has happened in other "similar" cases, and a total lack of logical sequence in the application of these imaginary cases to the case of Mr. Garfield—and in view of the fact that he evidently did not know, or has misrepresented, the nature and gravity of the wound, and that, equally he did not know, or has misrepresented, what was done by his surgeons, and what was not done;—in view of all these facts, it cannot be considered out of place for me to say, that he well deserved to be "taken seriously to task for uttering the belief that in this particular case the wound was not of necessity fatal, although he showed that similar wounds in many of the lower animals were recovered from;" nor can it be a matter of surprise that surgeons and medical journals, both at home and abroad, in many cases regarded his comments as worthy of ridicule, rather than of serious discussion.

And now that the teachings of Professor Esmarch, namely, that "the ball itself, in most cases, does no harm," and that "the real injury is what it has inflicted in its course," have been shown to be in accord with the opinions and and practices of the surgeons who, after the final organization of the counsel, had charge of the President to the time of his death, it remains for those "practicing physicians who, under the pressure of public opinion" (Esmarch), and after the autopsy had demonstrated that the ball was encapsulated and in a position where it could do no harm, publicly declared, through the newspapers and literary magazines, that it ought to have been sought for diligently; and that if it could not have been done otherwise, the cavity of the belly should have been laid open and the ball removed,—it remains, I say, for these gentlemen to reconcile their very wide differences of opinion with Professor Esmarch.

TUMORS OF THE LARYNX.—In a lecture on this subject at the Glasgow Royal Infirmary, and published in the *British Medical Journal,* Dr. David Newman says: In pre-laryngoscopic times, the diagnosis of a tumor in the larynx was limited to those cases in which the growth occupied the upper part of the laryngeal cavity, so as to be either visible to the eye when the tongue was depressed or within reach of the finger. Isolated cases of laryngeal polypus were recorded, even as far back as the middle of the eighteenth century; but at that time, and for many years subsequently, the diagnosis of such tumors was most uncertain. It was only towards the middle of the present century that the diagnosis of these diseases became exact, and that attempts were made to extirpate laryngeal growths by the mouth; although one hundred years previously, it is true, Kaderik performed for the first time, successfully, the endolaryngeal operation. I will not attempt, even briefly, to trace the gradual development which has taken place during the last half century, in the diagnosis and treatment of the diseases we are now considering; but I think I may say, with confidence, that whereas new formations in the larynx were formerly supposed to be of rare occurrence, and beyond the reach of the surgeon, they are now not only readily recognized during the life of the patient, but they may be successfully removed by surgical appliances. In fact, there is probably no other class of diseases in which the advantages of laryngoscopic examination have been more clearly demonstrated. Not only are tumors now known to occur more frequently than was formerly supposed, but there is even a tendency on the part of practitioners to believe that they prevail more commonly than is, on reference to statistics, actually found to be the case. You will find in practice that they constitute only a small proportion of the chronic maladies of the larynx, certainly not more than two or two and a half per cent.; so that, although the diagnosis of the individual case may be of the utmost importance to the patient, the number of cases which you will meet with in general practice is comparatively small.

Before proceeding further, I must request you to note clearly the characteristics which separate tumors from growths of inflammatory origin. In the former, the neoplasm has a tendency to persist and increase; while the latter tend always to disappear, to develop into a higher state, or to reproduce the tissue of their matrix. Tumors obey the laws which regulate the nutrition of normal tissues; but at the same time they have an independent life, or they may grow at the expense of the tissue in which they are implanted; and, from the fact that they do not contain nerves, the regulation or control of their nutrition differs from that of other parts. It is in this isolation, as regards the life of tumors, that the difficulty of explaining their etiology really lies.

Not only does every constructive act require that nutritive material be brought to the tissues, but the tissues themselves require to possess a formative power, without the agency of which the nutritive material would remain unorganized. If cells are to increase numerically or in size, or if they are to develop into a higher state, they must possess nutritive and formative excitability. Besides this, there must be some normal check to the indefinite growth of proliferating cells. Should this check become inoperative, or inadequate to control the productive energy of the proliferating cells, or should the formative excitability of the part be unduly increased, a tumor may result. This abnormal growth of certain elements may either arise from an alteration in the resisting power of the surrounding parts, or it may be a consequence of disturbance of intrinsic conditions. In tissues not undergoing rapid changes of growth or development, the nutritive and formative energy must be in a state of balance with those forces which inhibit it. If this inhibitory force be disturbed, then the cells grow and multiply unduly. When the cell proliferation is associated with increased functional activity, the condition which we describe under the term hypertrophy results; but, if the function of the part be not increased, then a tumor probably forms. In other words, hypertrophy is the consequence of increased functional activity, calling for increased nutritive activity; whereas, in tumors, the formative activity originates, independently of other causes, in the proliferating cells themselves.

The etiology of tumors is a question which is exceedingly involved, and one upon which little real light has up to the present been thrown. What is the effective cause of the production of a tumor? It is not possible at present to give a definite answer to such a question. In many cases, the cause is not apparent; and in others, the connection between the new formation and its alleged cause is remote.

Chronic catarrh of the laryngeal mucous membrane is one of the most fruitful causes of benign growths in the larynx; but probably both hyperæmia and chronic catarrh are blamed more frequently than they deserve. May they not be, in many cases, the result, rather than the cause, of tumor? The etiological conditions of inflammatory processes and what has been called the tumor-dyscrasia are closely related to one another, especially in some forms of chronic inflammation and sarcomatous growth. In fact, it is very difficult to draw a line between the etiology of some forms of chronic inflammation and the production of tumors. I am quite willing to admit that mechanical irritation of the laryngeal mucous membrane, either as a consequence of over-use of the voice or from other sources, may act as a predisposing cause to tumors, either malignant or benign. Those individuals who, from their profession, require to over-exert their vocal organs, such as clergymen, public speakers, school-masters, etc., are very prone to the diseases I am now discussing. As in other parts of the body, so also in the larynx, long-continued irritation may lead to the development of a tumor. Such causes of tumors have long been accepted; but it is also known that growths may form with absolutely healthy surroundings; or continued irritation and chronic inflammation may be present, and is present in multitudes of individuals without leading to any new formation. Laryngeal growths may be congenital; and Dr. Arthur Edis has reported, in the *Transactions of the Obstetrical Society,* a case in which a child died from suffocation thirty-six hours after birth; and, on *post-mortem* examination, a cyst, of the size of a hazel-nut, was found to occupy the larynx. The influence of sex is of importance. Men, from the fact that they are more exposed to vicissitudes of weather, irritating gases, and from the circumstance that, as a rule, greater demands are made upon their vocal organs, are more apt to be affected than women. The influence of age is of importance also. Middle life—that is to say, between 30 and 50—is the period at which growths are most apt to form, if we include cases of cancer, which are most likely to appear in persons of advanced life.

The question of heredity is difficult to prove, but what is attributed to inheritance in the production of tumors in other parts of the body should, I think, be admitted in cases of tumors in the larynx. Syphilis and tuberculosis, only in so far as they lead to chronic hyperæmia and catarrh, may be regarded as predisposing causes of tumors. These diseases generally, however, particularly the latter, lead to the death of the patient long before the catarrh has become sufficiently chronic to produce true tumors. Associated with tuberculosis, inflammatory new formations frequently develop, but these do not interest us at present.

In considering the pathology and symptoms of neoplasms of the larynx, I shall divide them into two important classes: first, benign, and second, malignant, tumors. There is nothing in reference to tumors of more importance, and which excites more interest and attention on the part of the medical attendant, than the qualities which may be included under the terms malignant and benign. Not only does a malignant tumor, properly so-called, produce grave constitutional disturbance, but from the very first it is associated with danger to the life of the individual. Its rapid growth, its tendency to be multiple, its return after excision, and in many cases the facility with which the surrounding tissue and glands become involved in the neoplasm, all point to an unfavorable prognosis; and if the features which I have just indicated be associated with secondary formations in neighboring or in distant parts, then the inevitable issue of the case is probably close at hand.

When I speak of a malignant tumor, I use the term only in a clinical sense. Many surgeons still employ the terms "malignant" and "cancerous" as if they were synonymous, whereas you know that malignancy is not characteristic of cancers only, but is equally pronounced in the sarcomatous growths. When you speak of a cancer, you mean a tumor of definite histological structure. A tumor may endanger the life of the host, by reason of its situation, without being, in the strict sense of the term, malignant; a malignant tumor may threaten life by exciting a general malady, the symptoms of which are anemia, emaciation, profuse sweating, hemorrhage, diarrhœa, etc., which ultimately cause death. To take an illustration from tumors in other parts of the body, an uterine fibroid, which is essentially in its structure an innocent growth, may cause death as a consequence of persistent hemorrhage, or a fibroma in the brain may cost the patient his life from interference with the function of nerve centres, upon which it may accidentally press. Likewise in the larynx, an innocent growth, such as a papilloma or myxoma, may kill purely by reason of its situation. If, however, it be removed, the patient is at once relieved, and the danger of recurrence is comparatively small. Roughly speaking, tumors are malignant in proportion to the vascularity of the soil in which they grow, to the number of mobile cells present in their interior and around them, to the richness of their lymphatic supply, and to their departure in structure from the type of a normal tissue.

The symptoms indicative of the presence of a tumor depend upon four circumstances—the nature, the situation, the extent of the new formation, and the intensity of the inflammation excited by its presence. The most important symptoms are interference with phonation, cough, pain, hemorrhage, and obstruction to respiration, or to deglutition.

I will now take up these symptoms separately, but, in doing so, I desire to impress upon you the fact that the interference with function is only a vague indication of the nature of the disease; it is upon a laryngoscopic inspection that the diagnosis must rest.

Phonation is more or less interfered with in all cases, and in some aphonia may be the only symptom present. The voice may be altered in various ways, according to circumstances; in some cases it may only be changed in tone and in quality, in others it may present the characters described as "Punch voice;" it may be reduced to a hoarse whisper, or it may be entirely lost. Interference with normal phonation, as a symptom, depends more upon the seat of the tumor than upon its size. In one of the cases which I will show you to-day there is a large adenoma, occupying the upper third of the larynx to such an extent that tracheotomy required to be performed; but still, as you will observe presently, the voice is not greatly altered. This depends upon the circumstance that the tumor is situated anteriorly, and the vocal cords are not encroached upon. In another case, where the tumor was not a tenth of the size of the one I have just mentioned to you, the patient suffered from complete aphonia, and this is easily explained by the fact that the growth was situated on the margin of the right vocal chord. You will, therefore, understand that a very small growth in one situation may cause more marked interference with the voice than a tumor of much greater size occupying another part of the laryngeal cavity. As a general rule, sessile growths of the vocal cords produce more disturbance than pedunculated ones, which hang in the larynx above the cords. The latter may, however, during inspiration, fall between the cords, and if phonation be attempted thereafter, it is found to be impossible. Growths situated below the cords may cause aphonia, by interference with the force of the current of expired air, especially if they be pedunculated; but, if sessile, subcordal tumors, when limited in size, seldom cause loss of voice. The cases which I show you to-day will demonstrate fully the points I have just mentioned.

Cough is not a constant symptom, but as a rule the patient has an uncontrollable desire to clear his throat. Should an attack of catarrh occur, cough may become very distressing, and be accompanied by a spasm of the larynx. Sometimes portions of the growth may be expectorated, and even the entire tumor may be detached during a paroxysm of coughing.

In non-malignant growths, pain and dysphagia are seldom pronounced features; whereas, in the early, but especially in the later, stages of malignant disease, both these symptoms are generally present. In cancer of the larynx the pain is, as a rule, limited to the larynx during the early stage; but when the growth has increased in bulk, the pain radiates to the ear, forehead, and orbit of the affected side, probably on account of irritation of the sensory fibres of the superior laryngeal nerve, which irritation may be reflected along the auricular branch of the vagus. It is not unfrequent, however, in cases of benign tumors, for the patient to complain of discomfort and disagreeable sensations, although not amounting to actual pain. The feeling of the presence of a foreign body, and the constant desire to get rid of it, may be the only discomfort of which the patient complains.

Hemorrhage arising from the presence of a tumor is almost pathognomic of cancer, especially when large in amount. It may be due to erosion of the walls of small blood-vessels from necrosis of the tumor-tissue, in which instance the hemorrhage is usually copious. Usually, however, the quantity of blood lost is small, and only appears in the expectoration as streaks on the surface of the muco-purulent secretion.

Hæmoptysis from the bronchial tubes or lungs may occur in the course of the disease from violent coughing, but the quantity of blood lost is seldom great, unless in malignant disease.

In a considerable percentage of cases, difficulty of respiration is present, but dyspnœa of a serious nature is less common than disturbance of phonation. In some cases, however, the difficulty in breathing suddenly becomes so urgent, that tracheotomy is required. This dyspnœa may be due to three causes: to mechanical obstruction from the presence of the growth, to spasm of the laryngeal muscles as a consequence of local irritation, or to an infiltration of the areolar tissue of the larynx with serous effusion. A growth may occupy the larynx for a considerable time, even for years, without leading to any serious impediment to respiration, when suddenly, without any apparent cause, the patient is seized with a dangerous complication, spasm of the glottis. In such cases the stridor and dyspnœa are often considerable, but the spasm seldom leads to a fatal issue. When the growth is situated high in the larynx, and especially when the epiglottis is involved, deglutition is apt to be interfered with. When pedunclated tumors exist, the dyspnœa may be transitory and paroxysmal; and even when there is a large tumor in the larynx, the obstruction to respiration may be very marked at one time, while at another breathing may be comparatively free.

NUTRITION IN LITHÆMIA.—In the course of a paper on this subject published in the *Buffalo Medical and Surgical Journal*, Dr. Chas. G. Stockton, Professor of Materia Medica, Niagara University, says: Lithæmia is called the gouty dyscrasia, but it is so unlike gout that I think it might as well stand as simply a dyscrasia.

Lithæmia implies the presence of a certain irritant, lithic acid, within the blood; and, for the present, granting this, the question is, first, how did it get there? second, how shall we get it away? Is it from fault in the *primæ viæ?* or from an overworked liver? or too little oxygen? or from disturbed innervation? or—what? That there is a condition called biliousness by some, frequently met with by all, and having a train of manifestations that are greatly modified by the character of the food taken, there can be no doubt. The disease—if disease it may be called—is generally attributed to indigestion by weakened, dilapidated digestive organs—the stomach, intestines, liver and pancreas. Nevertheless, we are continually finding people who seem to have sound organs and no dyspepsia, and yet are "bilious." I venture the prediction that if the digestive organs of these people could be subjected to scrutiny, they would be beyond without fault. The aliment is wholesome; the primary digestion is complete; into the fluids of the body are poured the chyme and the chyle properly prepared. The question is, not how much the blood will receive, but how much the cells will assimilate. Hence, we talk of tissue metamorphosis, and of the proper oxygenation of the blood, well knowing that in the healthy body the matter of waste depends upon oxidation, and that the matter of repair depends upon the appropriation—adaptation of nutriment from the fluids of the body—by the cells of the organs. The blood has two hands. In one, the plasma, it conveys nutriment to the cells; in the other, the hæmoglobine, it carries oxygen to them, energizing and, through activity, depleting them, rendering nutrition possible.

We have reached a cardinal point. Tell me why some healthy animals are "easy keepers" and others "hard?" Tell me why often small eaters grow fat and great eaters remain lean? And tell me why, when age creeps on apace, that some grow pursy and others shrivel up? Such examples of development and decay are common and are hereditary—"like father, like son"—and when we say this tendency is hereditary, we say that it is vital. In the scheme, in the architectural design, of the being, are to be found the answers to these questions; and there, also, and somewhat likewise, will be explained why the tissues of some are prone to nourish and waste properly and in order, while others act out of time and out of tune.

While the secrets of vital phenomena are unfathomable, some of their manifestations we may sound. The nervous system is intimately connected with the whole process of nutrition. A nervous system distraught by venery or the loss of sleep, by malaria or the taking of drugs, is attended by waste. This is partly through the vaso-motor system and arterial tension so prolonged that there results a partial venous stasis—cyanosis—and the tissues are poorly fed. The effete material is not carried out of the body as rapidly as it should be, and, besides that, what I think of very great importance, the lymphatic circulation is hindered. Let us remember that the lymph-spaces and the terminal blood-vessels cohabit; that there is a constant interchange of substance between them; that blood supply and blood pressure have a mighty deal to do with the motion of the lymph current, just as the quality of the blood has to do with the quality of the lymph. Let us also remember that the blood is dependent upon the lymphatic system for its corpuscles, so that oxygenation, to be perfect, must have an active lacteal tract; that the real nutrition of tissue cells is from the lymph in which they bathe; that the rapid abstraction of lymph from animals proves more speedily fatal than hemorrhage; and we must realize how important in this question are the lymphatics.

With the nervous, the sanguineous, the lymphatic systems, in united harmonious activity, the tissues would be properly fed and biliousness probably forgotten. But with these perturbed, there is imperfect metabolism, suboxidation, and lithæmia. This state of affairs must affect the liver unfavorably, retard the portal circulation, and offend the primary digestion. The liver is now a sluggard, and, occupying an intermediate position between the primary digestion and the ultimate nutrition, is capable of deranging both.

Not to be too elementary, it is enough to say, experience teaches that when the liver is thus disordered, improvement follows lessening the work of that organ. This may be done, first, by limiting the amount of food; second, by permitting only such articles of diet as the liver receives kindly; third, by making the primary digestion as complete as possible.

The first is easily accomplished where one can overcome that pernicious habit of stuffing patients, and for which the profession is to blame.

Study of the second point has led some to advise a dietary which admits of proteids, but excludes starches, sugar, and alcohol; others, however, allow farinaceous food, but limit the eating of azotized substances.

It seems to me that these contradictory views may be satisfied by studying the third point, the perfection of primary digestion. The proteids which leave the deodenum as peptones, in some manner changed by absorption, enter the portal circulation as a form of albumen. This, in the liver, meets with unknown changes. Some are transformed into glycogen, a carbo-hydrate. Much albumen, in some way modified by its liver experience, passes on into the circulation, to be consumed by the cells, and it would be expected that the resulting urea and uric acid would prove most pernicious to those suffering from acute gout. So far as I know, the experience of all the world confirms these expectations, except that of Dr. Draper and his adherents. But we are indebted to Dr. Draper for pointing out that a nitrogenous diet is, of all, most agreeable to some lithæmics, so-called. That it is the best diet for all lithæmics, I do not believe, and for the reasons that follow:

Some bilious individuals have good stomachs, but have weakened intestinal digestion. They digest starch with difficulty, but meat with comfort; and in such cases meat will be found to agree with the liver. Other bilious individuals, with gastric catarrh, abhor albuminoids; and when such substances are eaten, they are poorly peptonized, and, I suggest, are absorbed into the portal vein, improperly prepared for their liver tenement, and reach that organ as disturbers of the peace. At such a time a man may have auto-inoculation, whether from ptomaines or other poisons even less known. Does any one say that this is impossible? Then upon him rests the burden of telling *why* it is so.

Of one thing I am sure: that it is, in a proportion of cases, impracticable to continue the azotized dietary, for the reason that your patient will grow worse upon it; but when you put him upon a diet of starches and fats, properly re-enforced with diatase and pancreatin, there will ensue a great betterment. Do not let me overstate myself. The starchy diet is often the very worst, and the albuminoid the best. This is so for the reason that the primary digestion does not change the starch into a suited glucose. Nevertheless, it is absorbed by the *vena porta*, together with irritating acids, and instead of a transformation into glycogen, and from glycogen back again into a purified, chastened glucose, adapted to its new life in the better world of the general circulation, where it and its companion, oxygen, shall serve the vital cell, it proves a defiler in the house of its father. It deranges the liver's glycogenic function, and part of it slops over, so to speak, and enters the blood as a doer of evil.

If asked how I would manage lithæmia, I would answer: Avoid quinine; look carefully after gastro-intestinal catarrh; keep open all the sewers of the body, including the liver; be most mindful of the primary digestion, and suit the diet to the case, using, if needed, pepsin and hydrochloric acid with albuminoids, vegetable diastase with starches, and extract of pancreas with milk and the fats, after the admirable plan of Roberts, of Manchester. And, finally, the most important and most neglected agent of all, oxygen, should be gotten into the body. Do this by massage, which will improve the capillary circulation and hasten the lymph stream; by inhalation of oxygen, which promises much in this direction; by change of climate; or if, the case is not urgent, enjoin, as far as practicable, an active out-of-door life, with horse-back riding; for if there is anything that is truly anti-lithæmic, exercising, exhilarating, tingling a man into the belief that he is related to the gods, that thing is equination.

ABSTRACTS.

THE EARLY DIAGNOSIS OF PREGNANCY. By E. S. McKEE, M. D., Cincinnati.

The following is an abstract, prepared by the author expressly for GAILLARD'S MEDICAL JOURNAL, of a paper read by him before the American Medical Association, at St. Louis, May, 1886:

He considered our inability to make a prompt and positive diagnosis of early pregnancy, as the *Opprobrium Obstetrici.* In the first months the physician is sadly in need of reliable evidence. With this in view he turned his attention to the symptoms of the first trimestrium, more particularly those of more recent notice. He considered first, in their natural order, the signs which might occur at the time of conception. Of those mentioned, the only one of any value was the peculiar sensation, voluptuous in character, and more general erethism experienced on fruitful intercourse. An enumeration of the older symptoms of early pregnancy was then made. What was true of one of these was true of them all. There were numerous exceptions to each one, and the same condition might be produced by other causes. Hence very unreliable testimony.

Among the later signs was mentioned that of Jacquemier, the slate or purple color of the vagina. This can be caused by anything which will impede the circulation. The use of the principles of the telephone to hear the feeble sounds of the fœtal circulation much earlier than is now possible has been suggested by Dr. Joseph Taber Johnson. Dr. S. C. Dumm thinks he can diagnose pregnancy inside of four weeks by the odor of vernix caseosa upon the examining finger. Dr. E. C. Gerhung was able to make a diagnosis by the fifth or sixth week by the sensation imparted on touching the ovum with a sound. This was condemned as dangerous practice, while it might be simulated by a polypus or other foreign body in the earlier weeks, and as the ovum is only attached to parts of the uterine walls, the sound may glide past the latter. Kyesteine may be caused by certain pathological conditions, and has been found in women not pregnant, and even in men. Pinard and Didsbury have treated of a gingevitis which begins about the second month. Jotisenne, basing his observations on the law formulated by Graves, that in hypertrophy of the heart the radial pulse remains the same whatever the position of the body, maintained that, instead of the usual variation of from ten to twenty beats in the non-pregnant woman, the pulse of the impregnated remained the same. The author and others, on investigation, had found this quite unreliable. Dr. H. D. Fry thinks that a rise of intra-cervical temperature to one degree or more above the temperature of the axilla is a strong presumptive evidence of impregnation, provided there is no local trouble. The author has found this true, but has found the rise of temperature in the vagina to be less certain.

To Hegar we are indebted for the new sign of great promise which bears his name. This consists of an unusual resilience, compressibility, softness, bogginess, yielding, and thinning of the lower uterine segment; that is, the section immediately above the insertion of the ligamenta sacro uterina. The shape assumed is that of a fan, balloon, or jug. The change is most apparent in the median line. Compes makes the examination as follows: The thumb is introduced into the vagina until it reaches the cervix, and the index into the rectum until it reaches the ligamenta sacro uterina; the other hand is placed over the abdomen, immediately above the symphisis, and pressed down towards the finger in the rectum. The rectal finger explores the cervix and the lower uterine segment in all its parts, and lastly the higher parts of the uterus. The examination is facilitated by pulling down the uterus with the volsella, and evacuating the bladder and rectum. The author thought this mode of examination thorough yet repulsive to both patient and physician, as well as a difficult and hazardous procedure. He thought it possible, in the majority of cases, to make out all that is necessary with the finger in one of the culs de sac and the hand externally. If this is not sufficient, it would be quite proper to make the examination above described.

The bladder distended with urine, and the uterus with menstrual blood, may simulate Hegar's sign. These, however, are usually easily differentiated. Hyperplasia would show increased density. Subinvolution would show the longitudinal as well as the transverse diameters increased. Palpation may fail to get the sign in marked retroversion, unless a careful examination per rectum is made.

Dr. Reinl, formerly assistant to Dr. Hegar, says: Among twenty-two cases I missed the sign but twice, and found it earliest in the fifth week of pregnancy. Dr. Compes, present assistant to Hegar, has reported eight cases. Dr. E. H. Grandin, of New York, reports eighteen cases, and says he can make the diagnosis prior to the eighth week by Hegar's sign alone. The author had had a number of cases, some of which had not had time to develop. One of these, a widow, acknowledged the opportunity, and believed herself pregnant. Repeated examination failed to find Hegar's sign, and she was repeatedly assured that she was not pregnant. After eighteen weeks the menses returned, and were normal in amount and duration. Another was a wife who, after a four months' absence from her husband, returned to him February 9. She soon came under the author's care, and required a vaginal and specular examination two or three times per week. Three times in the sixth week Hegar's sign was made out. March 31, forty-eight days after her return, she miscarried.

He recommended Hegar's sign, lamented the fallibility of most of the others, and asked for investigators in a field that should not be "barren nor unfruitful."

A SIMPLE METHOD OF ARTIFICIAL RESPIRATION (John Arthur Francis, in *British Medical Journal*).—The main indications in artificial respiration are, apparently, (1) to loosen clothing, braces, etc., so as to allow free movement of the chest and prevent constriction of the neck; (2) to bring the trachea, larynx, and pharynx as nearly as is anatomically possible into a straight line with the openings of the mouth and nose; (3) to obtain as deep an inspiration as possible by elevating the ribs and depressing the diaphragm; and (4) to get a deep expiration. What I claim for my improvement is, that it would soon be understood by the laity, and that it fulfills the last three indications mentioned above more thoroughly than the present accepted methods. I remember, in two cases of drowning where I was sent for, watching a couple of policemen attempt the Marshall Hall proceeding. As the subjects had been submerged for eight and four hours respectively, I did not interfere. In both cases the chin was on the chest and the mouth and nose obstructed by the arm in the semi-prone position. This appeared to me a thing to be avoided. The Sylvester mode, adopted by the Royal Humane Society, is an improvement; but I think that the bundle of clothes under the neck is a mistake, as it is apt to slip up and throw the head forwards; and that the proceeding to procure inspiration acts in no way on the diaphragm, whilst a great deal of expansion of the chest is lost by not making use of the weight of the arms and ribs, combined with an extended spine. Howard's is a still further improvement. The bundle under the back extends the spine and raises the ribs and sternum, at the same time that the intestines gravitate from the diaphragm, and tend to cause inspiration by depressing that muscle through the alteration of the pressure in the lungs. But, in this case, the advantage of a good deep ex piration, which seems to me of nearly equal importance, following the admission of air into the chest, is lost, or rendered less, by the bundle of clothes, which keeps the ribs permanently raised. His plan of kneeling across the abdomen, and springing backwards with the hands on the thorax, though apparently very successful in experienced hands, seems to present elements of danger, should it be undertaken by a heavy, clumsy, and inexperienced man. Now, I believe that my method combines all the advantages of the above in a greater degree, without the disadvantages attending them, and also possesses the required simplicity. It is, merely, the body having been laid on the back, with clothes loosened and the mouth and nose wiped, for two bystanders to pass a narrow lever of any kind under the body at the level of the waist, and raise it till the tips of the fingers and the toes of the subject alone touch the ground, count fifteen rapidly, then lower the body flat to the ground and press the elbows to the sides hard, count fifteen again, then raise the body again for the same length of time, and so on, alternately raising and lowering. The head, arms, and legs are to be allowed to dangle down quite freely when the body is raised. A child can easily be manipulated by one person with a hand under each loin. For an adult, the best way is for two persons to grasp each other's right hand under the body, and then raise it. A stout walking-stick or umbrella would be efficacious, where the operators were too weak to lift up the patient with one clasped hand. To join both left and right hands with those of another person would probably form too great a plane for the body to rest on, except in the case of a very tall patient, and prevent the full extension of the spine. With regard to the tongue in suspended animation, I am inclined to believe that the danger of the tongue obstructing the entrance of air to the lungs is somewhat exaggerated; at least in children I have never observed any necessity for interfering with that organ, and the air has passed the nose in preference to the mouth, and that quite freely. Although, of course, medical men would use their own discretion in such a matter, according to the exigencies of the case, yet I think it would be wiser for ambulance books, etc., not to instruct the public to pull out the tongue. An ignorant person would probably interfere greatly with the attempt at artificial respiration, would very likely close up the mouth by holding the tongue against the upper jaw, and finish the case by obstructing the nostrils with the palm of his hand. Of course, in addition to my method of respiration, other aids are not to be neglected for restoring the circulation, such as hot brandy and water, when the patient can swallow, etc. It seems to me that the position of the body, when raised as described, mechanically puts upon the stretch all the muscles of inspiration, except the external intercostals, and that the position of the ribs, sternum, and clavicles allows their weight to aid considerably in the expansion of the thoracic cavity. The intestines and abdominal viscera also gravitate towards the pelvis, and would doubtless draw down the diaphragm.

THE PROPHYLAXIS OF ASTHMA. (Dr. David W. Yandell in the *American Practitioner and News*).—What I am about to say applies exclusively to children, for, as seen in adults, asthma has usually existed so long that it has wrought changes in the pulmonary apparatus quite beyond the control of the remedies under consideration; and, even in children, the full good of the drugs is only obtained when these are given with the utmost regularity during long periods of time, and in doses sufficient to produce their distinctive physiological effects. Under these conditions, conjoined to certain hygienic measures which I will mention further on, I am persuaded I have prevented asthma from fixing itself on many subjects who otherwise would have become permanent sufferers from this dismal affection. Perhaps, by describing the management of a case, I shall be able to put what I wish to communicate, in the fewest words: One night in July, 1865, I saw a well developed girl, six years old, in a sharp asthmatic seizure, which was soon relieved by a few doses of tincture of lobelia. I found that for two years before she had been subject to such attacks whenever she caught cold, and that the paroxysms had gradually grown more frequent, less and less "cold" being required to excite them. She was usually much worsted by a seizure, two or three days elapsing before she felt fully well again. At my next visit I directed ten grains of bromide potash to be given in a glass of seltzer water every morning on rising and at bed-time. To the latter dose was added the one hundred and twenty-fifth of a grain of sulphate of atropia. The mother was instructed as to the pathogenic effects of the medicines. Two days after it was found necessary to increase the bromide by five grains at a dose, which soon produced anæsthesia of the fauces, when the quantity was reduced to twelve grains, an amount which was not exceeded. Dryness of the throat and slight dilatation of the pupils followed after four days' use of the atropia. This medication was continued steadily for three months. Throughout the greater part of this time the patient had iron and strychnia after food. She was required to live in the open air and take a cold sponge-bath daily. She was provided with a cough mixture containing a considerable quantity of opium, and her mother directed to use it on the appearance of the first symptoms of a cold. She had in the period named but two attacks of asthma, both slight. In the ninety days preceding the treatment, she had five attacks. The treatment was now suspended for a fortnight, when the weather growing cold—this was in November—it was resumed and continued for the succeeding four months. In that time she caught several slight colds, but had no asthma until in March, when, after a wetting in a sleet, she had a mild seizure that yielded to five grains of Dover's powder. This was her last attack. For the next four months the medicines were given fifteen days in each month, and then omitted until the following December, when they were given uninterruptedly for sixty days. Ten months having passed without a seizure, notwithstanding the patient had suffered several sharp catarrhal attacks in the time, further treatment was deemed unnecessary. It is proper to add that the patient made no change of house, and had practically the same surroundings during the entire time. She remains free from asthma to this day. Since this case I have treated, by this same method, eight other cases of asthma in persons aged, respectively, three, ten years; two, eleven; one, twelve; one, thirteen, and one fourteen years old. All recovered but two, and in neither of these was the treatment fairly carried out by the parents. None were dismissed under fifteen months, while two were under treatment for two years. In five of the nine cases the disease was hereditary. Eight of the nine were unmistakably neurotic. Perhaps this fact may serve as an explanatian of the success of the treatment.

THE PREVENTION OF MAMMARY ABSCESS. (*Therapeutic Gazette.*) It being believed that friction of any kind in the large majority of cases rather tended to produce than prevent mammary abscess, it was long since discarded. The application of a long strip of belladonna plaster, sixteen or eighteen inches long and six or eight inches deep, with round apertures, so as to leave the nipples free, tightly across the chest, the breasts being brought well up towards the median line, for many years was the only resource adopted, beyond careful regulation of the diet, abstention from fluids, gentle purgation, etc. This method never failed, but it was often found that the smell of belladonna produced so much nausea in delicate patients as to preclude the employment of it. Thinking that in all probability the pressure exerted contributed greatly to the advantages derived, Dr. Arthur W. Edis (*Brit. Med. Journ.*, November 7, 1885), was induced to rely upon a few turns of a rib bandage, or the application of a thin towel or diaper across the chest, the breasts being brought well towards the sternum. Since adopting this method, he has never known it to fail. Not a single instance of mammary abscess has occurred in a long series of cases, extending over several years. The only precaution requisite is to apply the pressure on the second day following parturition, before the breasts begin to fill, and to see that the whole of the glands are included. It is well to elevate the shoulders somewhat more than usual, and not to allow the bedclothes to cover the upper part of the chest, the sheet alone sufficing to prevent any risk of chill. Restriction as to the amount of fluid for the first few days and attention to the bowels are all that is requisite to insure success. Some little inconvenience—a feeling of tightness or burning pain—is often experienced; but if the pressure be maintained, no harm results, and within the course of a few days the turgescence subsides and the difficulty is at an end. In order to keep the bandage or towel from slipping down, a shoulder-strap from back to front, or merely pinning the bandage to the night-dress, suffices. Where the secretion of milk seems to be unusually abundant, a mixture of bromide and iodide of potassium may be prescribed with benefit. In only a very few instances has it been found requisite to draw off a small quantity of milk by means of a breast-pump or exhausted soda-water bottle, and this only once or twice.

THE USE OF JABORANDI IN BRIGHT'S DISEASE.—In the course of a clinical lecture on a case of Bright's disease, reported in the *Canada Medical and Surgical Journal*, Prof. William Pepper, of Philadelphia, says: It is a fact that in those who are the subjects of chronic Bright's disease, acute attacks of the same may supervene without causing anything like that amount of systemic perturbation that will occur in those who were previously well. Therefore, the very tolerance of the disease which this man displayed, was a bad omen for his recovery. The anasarca was enormous, the urine was scanty, and the proportion of albumen was very great. I feared the development of uræmic symptoms, and so decided upon a brisk depurative course. As he had considerable gastric disturbance, I was loth to give medicines by the stomach for this purpose, particularly those of an irritant character, and I therefore decided upon diaphoretics in preference to purgatives. On the 24th of January he was given thirty minims of the fluid extract of jaborandi in the morning. This caused a very free sweating. His diet was confined to milk, of which he was given three pints in twenty-four hours. While he had been passing only about twenty ounces of urine daily, the day he took the jaborandi he passed thirty ounces. On the 25th, his bowels were moved and he was still sweating, showing how powerful and how lasting are the effects of jaborandi. On the 26th he was given another similar dose of jaborandi, when he again sweated very freely, and when it was noted that during the sweat he had lost five pounds in weight. As this was the only time he was weighed, there might have possibly been some inaccuracy, but, in future, I will have him carefully weighed before and after each sweating. The headache of which he had complained all along, still continued. I would call your attention to the action which jaborandi here had on the urinary secretion, increasing it from twenty to thirty ounces. I have repeatedly observed this action. Not only does this drug cause sweating, salivation, and sometimes watery vomiting, but it is also a most admirable diuretic; it promotes a great watery drain from the system, and I think that there is no drug comparable to it to remove fluid accumulations. On the 28th he was again given jaborandi, and again sweated profusely. After this it is noted that he breathed easier, there are less râles, and the œdema is less. On the 31st the dose was again repeated, since which time it has been given on alternate days. He is still very considerably water-logged, but the œdema is much less marked than it was.

PEPTONES PREPARED IN THE KITCHEN (*St. Louis Med. and Surg. Journal*).—One of the greatest drawbacks to the general use of peptones in private practice is the difficulty experienced in getting fresh preparations. This difficulty may be entirely obviated by having the peptones prepared at home, and administering them freshly made. The meat, beef or well aged veal (very young veal is of relatively small value) should be as fresh as possible. Choose the leaner parts of almost any portion of the animal, though good sirloin or rump steak is the best, and carefully divest it of bone, fat, and " gristle" (under which name are included all aponeurotic and tendinous material). One pound of meat thus prepared is sufficient for two days' consumption. In the evening, before bedtime, this amount of the meat should be minced very finely and put into an earthenware or porcelain vessel. Pour over it a quart of soft (distilled or rain) water and stir well with a wooden spoon, in the absence of which a small, clean stick will do. When well mixed, add a half ounce of officinal hydrochloric acid which has been previously mixed with twice its bulk of rain or distilled water—or say one tablespoonful of acid to two tablespoonfuls of water, which should be added very gradually and with constant stirring. Finally, add from seven to eight grains of fresh pepsin, and stir it well in. The vessel containing the mixture of meat and fluids should be put at bedtime in some place where a uniform temperature of 140° to 160° F. is maintained, and, where if possible, it should receive an occasional stirring during the night. In the morning put it on the fire and heat it slowly to a simmer, keeping it at this point for a couple of hours. It should be frequently stirred, and more frequently skimmed, since, despite of the most careful trimming and preparation, more or less adipose will remain adherent to the muscles, and upon the thorough elimination of this element to a great degree depends the palatableness and digestibility of the resultant peptone. At the end of a couple of hours remove from the fire, and pour upon a strainer or filter, and let run through. Nothing now remains to be done except to partially neutralize the acid, which is done by gradually adding a ten per cent. solution of sodic carbonate or bicarbonate until the fluid has remaining but a feebly acid taste. It would be asking almost too much of a domestic cook to prescribe that a small bit of litmus paper be used in the process of neutralization; and hence I suggest the dependence upon the sense of taste, though the litmus would be better. The peptone is now ready for use, just as it is; but in this shape, while it has nothing of that old-cheesy odor of the commercial peptones, it is very insipid, and since the palate must be tickled in order to get the stomach in the best of humors, some consideration must be shown to this organ, and here the skill of the cook comes into play. It may be thickened, for instance, with a little browned butter, or may be "laced" with a little good wine, cognac, rum, or good old Kentucky Bourbon. It may even be sweetened and taken hot, like coffee or tea, or it may be iced and, with the addition of a little lemon, taken cold. Besides beef and veal, the flesh (lean) of fowls, especially of chickens and turkeys, may be used. For rectal medication peptones of veal are said to be preferable. When it is necessary to resort to this mode of alimentation, the proportion of hydrochloric acid should be reduced, or that of the alkaline carbonate increased, so that the resultant peptone is entirely neutral.

MICROSCOPY AND PATHOLOGY.

ABSTRACT OF THE CARTWRIGHT LECTURES ON CERTAIN PROBLEMS IN THE PHYSIOLOGY OF THE BLOOD. Delivered before the Alumni Association of the College of Physicians and Surgeons, New York, by WILLIAM OSLER, M. D., Philadelphia, Professor of Clinical Medicine in the University of Pennsylvania.

LECTURE I.

Tuesday, March 23, 1886.

The so-called Third Corpuscle; the Blood-plate of Bizzozero, the Hæmatoblast of Hayem.

Among the problems which are yet open to physiologists there are interesting ones still which center around the blood-corpuscles. In no department of physiology have so much time and labor been expended, and with so little positive result, as upon the origin and life-history of the corpuscles. The work of the last few years has been occupied largely in two directions: 1. To prove or disprove the existence of a third corpuscle. 2. Upon the degeneration or regeneration of corpuscles.

The present lecture was to be occupied with certain statements concerning the third corpuscle—the so-called corpuscle of Hayem. This body has received various names, having been called *elementary corpuscle* by Zimmerman, *hæmatoblast* by Hayem, and *blood-plate* or *plaque* by Bizzozero. The term *disklet* has also been suggested. Blood-plate and blood-plaque are now accepted, however, by the greater number of investigators, notably by Kemp and Martin, who have offered the most recent contribution to the subject, and those names are likely to be constant. The body in question is a colorless protoplasmic disc measuring from 1·5 to 3·5 micro-millimetres; in exceptional cases it has been found as large as 5·0 or 6·0 micro-millimetres in diameter. Its ratio to the red corpuscles is as 1 to 18 or 20, and, when withdrawn, the individual corpuscles quickly adhere or *conglutinate* (as it has been technically termed) in large numbers, thus forming the well-known granule-masses of Schultze, which are altogether too large to pass through capillary vessels. Norris has maintained that these bodies are identical with the *invisible discs* which were described by him. This is denied, and the opinion is advanced that the *invisible discs* are only decolorized red corpuscles. If the blood-plaques are studied without the use of reagents, no satisfactory result will be obtained, for they will quickly coalesce and disintegrate. They may be seen, however, as small grayish granule-masses, with projections of fibrin filaments in some cases, the masses being of from ten to fifteen times the size of the red corpuscle. The masses are made up of small bodies of uniform size which, when seen in face, have a discoid or ovid appearance, but in profile resemble a straight rod, which is sometimes clubbed at both ends. These masses are not seen within the vessels, but only in blood which has been withdrawn. The corpuscles are best studies in a one-per-cent. solution of osmic acid, or in Pacini's fluid. The method of preparing the specimen is to place one drop of the osmic-acid solution, or the Pacini's fluid, upon the finger-tip, then plunge the finger through the solution, allowing a small drop of blood to mix with it, and then place the specimen upon the slide. Bizzozero uses the common saline solution of the laboratory, adding a small quantity of methyl violet as a stain. If the investigation is carried on in the living animal, it (the animal) should be under the influence of chloral, and with a slow blood-current. The vessels of the omentum in very young animals may then be studied, and the vessels in the subcutaneous connective tissue of the tail of a rat one or two days old are specially recommended as furnishing excellent opportunities for this purpose. The subject may also be satisfactorily investigated in the tissue of freshly removed tumors and other morbid specimens from human beings, and in tissue which is removed from dead bodies, if taken very soon after death.

The corpuscle is a homogeneous, structureless mass of protoplasm, without distinction of center and periphery, without color or nucleus. Sometimes one sees a dark peripheral portion, like a thickening of that part, but, when viewed from other points, this peculiarity is found to be only apparent. A marked peculiarity of these bodies is their tendency to cohere immediately after the blood is drawn, thus forming Schultze's *granule-masses*, and this process is analogous to the nummulation of the red corpuscles. Another noteworthy fact is that the corpuscles sometimes remain isolated, instead of cohering, such a condition having been observed in blood which has been drawn from patients with malignant fevers, small-pox, etc. This fact also has its analogue in the less positive nummulation which obtains with the red corpuscles during the same diseases.

The plaques may also become crenated, a change which is believed to be physical and not amœboid. This phenomenon will be seen most satisfactorily if fresh blood-serum is added to the specimen. The number of these bodies is difficult to ascertain. Hayem has placed it at 250,000 to 300,000 to the cubic millimetre, and in conditions of disease, as well as in the blood of the new-born, it may be 500,000 or more. The methods of estimation are believed to be, as yet, inexact, and hence all statements as to the number must be taken as merely approximative. The chief cause of difficulty in numerical estimations lies in the fact of the tendency of the bodies to collect and cohere at the sides of the vessels and upon any substance which may be interposed. The plaques are much more abundant, as already stated, in a diseased than in a healthy organism. They have been found specially abundant in cancer and other diseases in which there is a marked cachexia, and in the latter stages of pulmonary consumption. So noticeable is their presence in the last mentioned disease that they were for a while supposed by some investigators to be a peculiar product of that disease. On the other hand, they are not increased in number during acute pyrexia, but during convalescence the increase is quite noticeable.

As to their presence, it is believed that it is constant in mammals, especially in the young. In oviparous vertebrates an analogous body has been found, but it is nucleated. The opinion has been advanced that they are not independent and original bodies, but are due to the disintegration of white corpuscles. Objections to such an opinion are: 1. I have never found that the white corpuscles disintegrate with such rapidity as to form bodies like these. 2. They can be demonstrated and fixed by the osmic-acid method. 3. They have been repeatedly seen in the circulation of the living animal—in the omentum of the guinea-pig, etc.

The history of this body is comprised in three periods. The first includes the time previous to 1877–'78, in which observations were made by Donné, Zimmerman, Erb, and others. In 1874 I called attention to the fact that the *granule-masses* of Schultze did not assume that form until after the blood had been withdrawn. The second period was in 1877–'78, when Hayem demonstrated that a third corpuscle, which he termed *hæmatoblast*, did exist, but his work excited little attention either in Germany, in England, or in America. The third period began in 1882, when Bizzozero published his paper confirming Hayem's statements as the result of his investigation. Since that time about twenty different articles upon this subject have appeared and confirmed the account which was given by Hayem. Schmidt and his followers, of Dorpat, are the only notable dissenters from those views.

LECTURE II.

Saturday, March 27, 1886.

Degeneration and Regeneration af the Corpuscles.

Much labor has been spent in the past ten years in investigations concerning the degeneration and regeneration of the blood-corpuscles. These changes may be due to the increased destruction of the corpuscles from fever, poison, hemorrhages, etc.; or to primary changes in the blood-forming glands; or as the secondary effect of imperfect nutrition.

The anæmia which is the result of hemorrhage furnishes an interesting study concerning the degeneration of the corpuscles. The most important change in the corpuscles which occurs after profuse hemorrhage, whether in man or in animals, is a change in their size. This change does not occur solely after hemorrhages, but may proceed from a variety of causes. The normal size of the red corpuscle in the adult human being averages 7.5 mmm. in diameter. According to Hayem, normal corpuscles (red) should be divided, with reference to their size, into three grades—those which are under 7 mmm. in diameter, including about 12 per cent. of the entire number; those which are about 7 mmm. in diameter, including about 75 per cent.; and those which are larger than the ones just mentioned, and which include the remainder. In anæmia one finds many very small and some very large corpuscles, the size varying between 2.5 mmm. and 12 to 15 mmm. This subject of the variation in size of these bodies is termed by Quincke *poikilocytosis*, and has been elaborated by him under that term. The very small corpuscles are termed microcytes, and may be found in abundance in the dog a few hours after induced loss of one-quarter or one-third of the total blood-supply. They are also found as a rule in all cases of profound anæmia, exceptions occurring in certain cases of cancer and pulmonary consumption. It is now known, however, that they are not distinctive of pernicious anæmia, as was held by certain writers in 1876, on account of their almost constant presence in that condition. They vary in number in the different forms of anæmia, being most abundant in idiopathic or pernicious anæmia. The question naturally occurs, Are these microcytes bodies which are in the course of development or regeneration, or are they fragments of bodies which are undergoing degeneration? According to Hayem, they are one step in advance of the *blood-plaque*, but it may be considered more probable that they are fragments, which have become separated as the corpuscles become irregular and crenated, and are afterward discovered in the field of the microscope.

Very large corpuscles, or megalocytes, are also found in splenic and idiopathic anæmia, especially if the anæmia follows hemorrhage. They may be 12 or 15 mmm. in diameter, are usually neither spherical nor bi-concave, but flatter and more irregular than in the normal condition. Their outlines vary very much, being very irregular, while normal corpuscles are very regular in outline. The opinion is advanced that the changes may be due to changes in the serum, and the use of Pacini's fluid may produce such an effect. In animals from which a large quantity of blood has been taken it has been observed that there is also an increase in the number of white corpuscles, though no particular changes have been noted. In induced anæmia the blood-plaques are also increased in number and in size. In anæmia, too, nucleated red corpuscles are found (which are normal, though rare, in the blood of the embryo and new-born child, and even as late as the fourth or fifth year of life). They are identical with the nucleated red corpuscles which are normal in the bone-marrow. In leukæmia they are more abundant than in any other condition. Exceptionally one finds in the blood large bodies into which red corpuscles have worked their way, or at any rate in which they are present.

Concerning the regeneration of the corpuscles, the details have been studied particularly in the spleen and the bone-marrow, especially in the child and the embryo. The corpuscles in the bone-marrow have feeble amœboid movements. Their protoplasm is also less granular than it is in the larger marrow-cells. They resemble, as to size, the colorless corpuscles. In a figure shown there are elements which resemble free nuclei, which are called lymphoid corpuscles, and which are found in the spleen and bone-marrow. These elements seem to be concerned in the question of the regeneration of the corpuscles. Some of them have a narrow rim of protoplasm, which is revealed by the use of proper reagents. Nucleated red corpuscles are found in the bone-marrow at all periods of life. They vary much in size and as to the condition of their nuclei. The specimens should be examined when quite fresh, and without the use of any reagents. The gradation which I have observed in the development of these bodies is as follows:

1. A solid homogeneous nucleus is observed.
2. A nucleus with a rim of homogeneous protoplasm.
3. A solid nucleus with a rim of protoplasm, but colored, and now, in fact, a completed nucleated red corpuscle.

This process of development has been studied and observed already in the guinea-pig and in the rabbit. The further change into the ordinary non-nucleated corpuscles occurs gradually by the disappearance and disintegration of the nuclei. Neumann and others have also observed this series of changes. Rindfleisch has advanced a different theory in regard to the development of the corpuscles, and he believes that the nucleated corpuscle becomes non-nucleated by emigration of the nuclei. It may be considered that changes of this character are post-mortem changes, fresh marrow showing few corpuscles with nuclei at their peripheries suggesting emigration.

Neumann and Bizzozero are in accord in the belief that the nuclei disappear gradually. Bizzozero holds that the nucleated red corpuscles are developed by fission, and maintains that he has seen the process occur in the course of fifteen minutes. The opinion of Hayem, that the red corpuscles are derived from the blood plaques, is not yet accepted by all. His arguments in support of his position are: 1. The similar disc-like and bi-concave shapes of both bodies. 2. The gradations in the size of both bodies. 3. The plaques becoming tinted gradually, absorbing or accumulating hæmoglobin. To this I may object that I have never seen the blood-plaques other than colorless, and they are also without the cup-like depressions of the microcytes, which, as already stated, I consider an intermediate form in the development of the red corpuscle.

4. The blood-plaques are seen under just the conditions which would seem to call for an increase in numbers—e. g., after hemorrhages and fevers.

5. In the germinative area of the mesoblast (the *parablast* of His) small plaques are seen in the so-called *blood-islands.* With certain probabilities in

favor of Hayem's theories, there are gaps yet to be filled, and there are statements which have not yet been corroborated by other observers.

As a possible source of development may be mentioned the lymphoid cells, in which several corpuscles are sometimes found. These are frequently found in embryos and very young animals, and have been considered as indicating a process of degeneration. While this may be a fact, the question also arises whether it is not possible that similar phenomena will be found to indicate also a process of regeneration, the non-nucleated corpuscles arising, or appearing to arise, in the protoplasm.

LECTURE III.

Tuesday, March 30, 1886.

The Relation of the Corpuscles to the Process of Coagulation.

Buchanan was the first to assert that the colorless corpuscles played an important part in the formation of the blood-clot. His investigations were made between 1830 and 1840 upon what he termed the *washed blood-clot*, and the conclusion which he reached was that coagulation was attributable to the white corpuscles, which acted as a ferment or which contained a ferment, their action being analogous to that of rennet. His (Buchanan's) views were taken up and elaborated by Schmidt, of Dorpat, and his pupils, who consider that the white corpuscles disintegrate and thus furnish two elements, fibrinogen and fibrinoplastin, which remain in solution in the blood-plasma until conditions which favor their union arise, when they produce fibrin, which, acting after the manner of a ferment, results in the formation of a clot. This theory was elaborated largely from investigations which were made upon the blood of the horse, which abounds in white corpuscles. After the plasma had been subjected to the operation of whipping, it was found that seventy per cent. of the white corpuscles had been destroyed, or, in other words, instead of fifteen thousand white corpuscles to the cubic millimetre, which existed previous to the whipping, there were not more than four thousand after the fibrin had been extracted, the rest having been destroyed, apparently, to form fibrinoplastin and fibrin ferment.

Investigations upon this subject have also been made by Woolridge. He obtained leucocytes in abundance from the lymph-glands, and, having mixed equal volumes of these bodies and a ten-per-cent. solution of chloride of sodium, he obtained a substance which resembled fibrin. He also injected peptone plasma into the circulation of a dog, and then withdrew some of the blood, which did not coagulate, but, upon the addition of leucocytes, coagulation occurred, and the quantity of fibrin which it contained was proportional to the volume of leucocytes which was added. In other words, the weight of the fibrin was the same as that of the leucocytes. His (Woolridge's) investigations also led him to the conclusion that the leucocytes had undergone disintegration.

Concerning the experiments which have been made upon the blood of the horse, it appears that after coagulation the plasma still contains white corpuscles or leucocytes. The theory was, therefore, advanced by Schmidt and his followers that there were two varieties of leucocytes—the α, or those which are destroyed, and the β, or those which remain and are not disintegrated.

In my opinion, no evidence of a histological character has yet been offered which proves the disintegration of the white corpuscles, as alleged by Schmidt and Woolridge, by examination of a blood drop either upon a slide or in the moist chamber.

If the blood is examined under the microscope, the filaments of fibrin will begin to appear in a period which will vary between ten seconds and two or three minutes. Before coagulation begins, the red corpuscles and the blood-plaques are plainly seen, without any apparent change, and the white corpuscles as well, without any apparent signs of disintegration or dissolution. In fact, the amœboid movements of the white corpuscles can be made out long after the filaments of fibrin have made their appearance. Even in the blood of the horse, as studied under the microscope, in a very fine glass tube, the steps of coagulation have appeared to be the same, according to my observation, as in blood from other sources. The clot forms very gradually, and afterward the white corpuscles can be seen working or squeezing their way out of it into the serum, with no appearance of anything like disintegration. It is possible that erroneous conclusions concerning the disintegration of the leucocytes have been reached on account of mistakes in regarding the blood-plaques as disintegrated leucocytes.

Concerning the relation of the red corpuscles to coagulation investigations have been made, and their results published by Landois. He observed, in frogs and rabbits, that when their blood was drawn the red corpuscles aggregated in lumps, the hæmoglobin was lost, filaments of fibrin appeared, and the red corpuscles broke down. These observations were made ten years ago and have been confirmed, but it is still uncertain whether the red corpuscles are converted into fibrin.

The subject of the relation of the blood-plaques to coagulation is a new one. Filaments of fibrin can be readily seen projecting from the *granule-masses* of the hæmatoblasts, and Schultze and Ranvier have thought that they became centres for coagulation. The fibrin sets or forms in a thick network about the granule-masses, but it is also found, independently of the plaques, in the serum, resembling fine crystalline bodies. That the blood-plaques are centres for coagulation appears to be demonstrated by the introduction of a small piece of thread into the active circulation (*e. g.*, into the femoral vein of a dog). After it has been left there for some minutes, it is found on withdrawing it that the blood-plaques have collected upon it. Red and white corpuscles are also found upon the thread, but the plaques are much more conspicuous, and if the thread is placed in a coagulable solution, after the red and the white corpuscles have been washed away, clotting will promptly take place, and the more abundant the plaques, the firmer will be the clot. The objection has been advanced that the thread has absorbed fibrin ferment, in addition to collecting the plaques, and that it is this, and not the plaques, which produces the clot in the coagulable solution. This is possible, but it has not yet been absolutely demonstrated. Eberth's investigations showed that the plaques were the first elements from the blood which settled upon the wounded portion of a vessel, and hence were the first elements in the formation of a thrombus. Eberth, Hayem, and Bizzozero have also shown that if a needle is passed over a vessel, detaining or retarding the blood-current, the blood-plaques are the first elements which collect upon the wall of the vessel, forming masses which constitute the chief element in the white thrombi. In the active circulation the plaques are seen with the red corpuscles near the centre of the vessel, a few of them being at the periphery or in the *still layer* of the blood-current, with the white corpuscles. On the other hand, when the blood-current is slow, the plaques are scattered irregularly among the red and white corpuscles, both centrally and peripherally, and therefore are in a favorable situation for detention upon the wall of the vessel. It is when the current is slow that the white thrombi are formed, and I was the first to observe, in 1881, that in the most superficial part of the white thrombi the blood-plaques were present. They resembled white corpuscles and also reticulated fibrin, but were proved to be blood-plaques by the tests with osmic acid, Pacini's fluid, and salt solution. The conclusion is therefore reached that the blood-plaque exists as a separate element in the blood, and also as an important factor in the formation of a thrombus.—*New York Medical Journal.*

HOSPITAL NOTES.

UNIVERSITY COLLEGE HOSPITAL—STAB IN THE ABDOMEN WITH A CARVING-KNIFE; EXAMINATION OF STOMACH, COLON, AND OMENTUM; VISCERA REPLACED; SUTURE; UNINTERRUPTED RECOVERY; REMARKS. (Under the care of Mr. Barker).—The following case of penetrating wound of the abdomen is chiefly interesting from the treatment which was carried out in the case. It was not certain whether there had been a wound of the contents of the bladder or not, neither was it known to what extent extravasation of blood might have taken place. Wounds of the viscera, with extravasation of contents, or decomposition of blood-clots, producing peritonitis, constitute the chief danger in these cases. Few surgeons with the power of employing full antiseptic precautions would hesitate to follow the method used here, and remedy as far as possible any such condition, if found. In the surgical records of the American civil war thirteen cases of incised or punctured penetrating wound of the abdomen without injury of the viscera are recorded; of these nine recovered.

L. D——, a healthy girl, aged fourteen, was admitted at about 4.30 P.M., on January 14 for a recent wound of the abdomen. She was carrying a dish down-stairs at 2.30 P.M., on which was a carving-knife pointing towards herself. At the kitchen door she turned to speak to the cook, and then stumbled, when the handle came in contact with the door-post, and the blade ran into her abdomen, remaining there for some seconds before falling out by its own weight. She did not faint at the time or later. On arriving at the hospital she was examined by Mr. Barker, after careful cleansing of the wound with carbolic solution. The wound was a clean cut one, an inch long, seated two inches to the left and an inch and a half above the level of the umbilicus, close to the margin of the ribs, and consequently over the cardiac end of the stomach. On passing the finger into the slit it was found to correspond to a deep wound in the rectus muscle, which was almost transverse. A probe was passed into the abdomen from left to right, and was felt to tilt against scybala in the transverse colon. There was but little external bleeding, though a few small clots escaped. The girl was not collapsed, and did not appear to be suffering much pain. The pulse was 130; the temperature in the rectum, 101.2°.

Judging, from the extent of the wound and its direction, that either the stomach or transverse colon could hardly have escaped, Mr. Barker determined to explore the abdominal cavity thoroughly around the seat of injury before any septic processes should have time to extend. The temperature and pulse at 6 P.M. seemed to indicate the commencement of inflammation. He therefore enlarged the skin wound forward to the extent of exactly three inches, the inner end of the incision now reaching the middle line about half an inch above the umbilicus. The whole operation was done with the strictest antiseptic precautions. The rectus muscle was then seen to have been divided by the carving-knife almost completely across, only half an inch or so remaining uncut close to the linea alba. The wound gaped widely, and was partly blocked by a mass of omentum. On the latter, and between the ends of the divided muscle, were some small clots, which were carefully wiped away. When the whole space had been cleared, and a few of the inner fibres of the rectus had been divided to the extent of the wound on its peritoneal aspect, the omentum was drawn out and wiped clean of some remaining clots. It was then replaced and the stomach was drawn out of the wound to a considerable extent and examined, but was found to be uninjured. Having been carefully wiped with carbolized sponges, it was replaced, and the adjacent part of the colon was pulled through the wound and passed through the fingers from side to side, until all of the transverse portion that might have been injured had been closely inspected. Finding no injury here, Mr. Barker replaced the bowel, and then sponged out the abdomen all round with small carbolized sponges. The peritoneal edges of the wound were then brought firmly into contact by six or seven stout carbolized silk sutures, including the edges of the rectus muscles and its sheath. These were cut short, and remained in the wound. The skin wound was then united with seven silk sutures, except at the outer angle, where a drainage-tube was inserted. It was dusted with iodoform, and dressed with salicylic wool firmly secured with a bandage encircling the body.

The was no shock after the operation, and at 8 P.M. the patient was comfortable; pulse 100; respiration 22; temperature in the rectum 99°. During the night the patient vomited a little, as the result of the chloroform, but was almost free of pain. The next day she was perfectly well, and remained so until she left the hospital. She required no morphia, and was in a few days anxious for abundance of food. The wound was dressed for the first time on the third day, and was found healed, without a trace of discharge. The tube was shortened to half an inch, and the same dressing applied. This was not again disturbed until the twelfth day, when the seven superficial stitches and the last bit of the tube were removed, as the wound was quite dry and healed. The deep sutures were left undisturbed. The girl was quite well from first to last, the pulse, temperature, and appetite remaining normal. As the rectus muscles had been cut across, Mr. Barker thought it better to keep the patient in bed for full three weeks, to avoid overstrain of the deep sutures. She was therefore kept on her back, with the shoulders raised and thighs flexed, until the twenty-second day, when she was allowed to get up. A week later she went home, perfectly well in every respect.

Remarks by Mr. Barker.—That the knife must have passed well into the abdomen was evidenced by the extent of the gash in the peritoneum, and that the viscera should have escaped was extraordinary. The extent of the wound in the rectus and peritoneum could not have been discovered without enlarging the skin wound, and without examination of the viscera, as above, there would have been no certainty as to their fate. The early removal of the clots and thorough cleansing of the serous surfaces probably prevented a dangerous peritonitis, which was almost certain to follow such a wound of the peritoneum made by a knife lately used for carving ; and the accurate suture of the peritoneum, the rectus muscle, and its sheath prevented any chance of hernia if the patient survived the risks of the stab.—*Lancet.*

SANITARY.

SANITARY CONDITION OF THE CAPITOL AT ALBANY.—Report of James T. Gardiner, Consulting Engineer to the Board of Health.—James T. Gardiner, Consulting Engineer to the New York State Board of Health, has submitted a report to that body in regard to the sanitary condition of the Capitol. "The essential condition of the wholesomeness of the rooms of the Capitol," Mr. Gardiner premises, " is the passing through them of a constant slow current of pure air properly warmed. This involves the entrance into them of a pure supply of warm air, its exit through proper apertures, and the prevention of any foul air from reaching them." He finds that there are few rooms among those occupied as offices or committee rooms where all these conditions are fulfilled. The results of Mr. Gardiner's investigation may be summarized as follows:

The air-supply of the Capitol, drawn down from the level of the roof through air shafts, is in danger of contamination from drain-air rising through four leaders and through two large soil pipes that discharge within twelve feet of the top of the shafts. The current down the shafts is at such a rate that the volume of air in them is changed once a minute. In its downward course the purity of the air is further endangered by nine large water-closets, the windows from which open into the air shafts. From the foot of the shafts the air is drawn over steam coils and forced by fans into the basement, from the ceiling of which hot-air flues lead to the rooms above. The air, on reaching the basement, is further contaminated by foul smelling ground water, which seeps in through the foundation wall along the western side of the building, and by the air from 3,300 feet of horizontal drains, and 1,100 feet of soil and waste pipes. The two large brick drains were found to contain several inches of offensive matter, and to be connected, without trapping, with large cesspools containing nearly 400 cubic feet of accumulated filth.

The iron drain on the north side was found to be so obstructed that much filth accumulated. After leaving the basement, and rising into the apartments, it was found that in many of the rooms the air became stagnant for want of proper exit flues. The provision for bringing air into the rooms has in general been adequate, while the arrangements for its outlet are very inadequate. In the western section of the Capitol, flues have been built to obviate this difficulty, the advantage of which will be felt if the up-draught through them is sufficiently strong. This up-current is to be effected by means of steam radiators in the flues.

Such are the insanitary conditions. The remedies advised are: The trapping of the leaders which open near the top of the air shafts; the carrying of the upper ends of soil pipes further from the air shafts; the permanent closing and calking of the windows of the water-closets opening on the shafts; and the providing of artificial ventilation for all these water-closets.

As regards the protection of the air in the basement, the seeping of the foul ground water on to the floor along the western side can only be permanently prevented by constructing a wall outside of the foundation, leaving an open area which can be thoroughly drained and kept clean. The rising of foul ground air from the loosely filled space beneath the basement floor can be stopped only by spreading a layer of asphalt under the pavement. All dirty water should be kept out of the large brick drains and carried in iron pipes with lead joints to the eastern front of the building, and there, after being trapped, find outlet into the street sewers. The brick drains should discharge under the foundation through iron pipes which should be separately trapped on the outside of the building. The iron drains which now carry the bulk of the sewage from the building should be laid in conduits and have air-tight hand-holes opening, not into the corridors, but into the conduits. These conduits and the brick drains should be ventilated by sucking the air from them at such a rate as to produce a down draught through any crevice between them and the basement. The iron drains carrying the sewage should be trapped separately from the other drains outside of the building. The traps should all be in man-holes where they can be reached for cleaning. The original plan of drawing out the vitiated air from the apartments on the first and second floors, by exhausting it through flues constructed for the purpose, down into conduits under the basement, should be carried out. Flues should be made or chimney flues utilized to draw the air from all the other rooms by means of fans placed in the attic and worked by power transmitted from the basement, and the power of the fans which force air into the basement should be increased so as to permit the passing through the building of a much larger volume of air than is now possible. The cleaning of the traps and waste pipes between washbowls and traps is recommended at least twice a year; and the introduction of incandescent electric light in all the rooms, which is in progress and will soon be completed, is an important sanitary improvement, because gas-burners over-heat the rooms, and not only consume the oxygen of the air but by the inevitable escape of gas render air impure for breathing.

The Advantages of a Good Water Supply.—Mortality tables for the year 1885, published by the New York State Board of Health, show that of each 1,000 deaths in the maritime district (New York City, Long Island, Staten Island, and Westchester County,) only 8.87 were caused by typhoid fever, while in the Hudson Valley district (to the head of navigation, including Albany and Troy), the number was 27.85, and in no other district did it fall below 19. This remarkable difference is due, of course, to many causes, but doubtless the main cause was the quality of the drinking water. The great cities that rely exclusively upon a pure public supply of water do not suffer from typhoid as the smaller cities and villages do whose people take water from wells, or from other sources that are open to pollution.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	“	1-6th	“
1 decigramme	“	1½	grains.
1 gramme	“	15	“
1 decagramme	“	150	“
1 hectogramme	“	1,465	“
1 kilogramme	“	14,720	“
1 myriagramme	“	145,824	“

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	“	1-100th	“
1 decimetre	“	1-10th	“
1 metre	“	39 37-100th	inches
1 decametre	“	10	metres
1 hectometre	“	100	“
1 kilometre	“	1,000	“
1 myriametre	“	10,000	“

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	“	150	“	“
1 decilitre	“	1,500	“	“
1 litre	“	(1 qt.) 15,000	“	“
1 decalitre	“	150,000	“	“
1 hectolitre	“	1,150,000	“	“

Note.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. “ “	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. “ “	equal to	1 5-100ths minims.
1 fl drachm water at 60 deg. F.		56 96-100ths grains.
1 fl oz. “ “		455 69-100ths “
1 fl gallon “ “		231 cubic inches.
1 fl pint “ “		28 87-100 “

TEMPERATURES.

Centigrade.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

Reaumur.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

Hopeine.—The remarkable discovery was announced, about a year ago, of a new alkaloid to which are due the narcotic properties generally attributed to hops. To this alkaloid the discoverers—Williamson and Springmuehl, of London, England—gave the uneuphonious name of hopeine, driven to this alternative, it would appear, by the circumstance that the names lupulin and humulin, which the ordinary practice in scientific nomenclature would have suggested, were preoccupied. In view of the fact that previous investigators had never found in this drug any such alkaloid, the announcement was received with some incredulity, but a ready explanation was forthcoming. The new alkaloid, it was stated, is contained in ordinary cultivated hops only in very minute quantities. In the wild American hop, however, it was said to be present in the proportion of fifteen parts in ten thousand, or about ten grains in a pound. It was stated, however, that in practice the yield was only three or four grains from a pound of the crude material.

The process by which the alkaloid was obtained, was totally unlike any recognized process for extracting alkaloids. The hops were to be exhausted with a sixteen-per-cent. solution of glucose in water, with addition of acetic acid. The solution, after treatment with animal charcoal, was to be evaporated, to separate the glucose by crystallization (!). The residue was then to be treated with absolute alcohol to obtain the crude alkaloid. We are quite unable to conjecture why a solution of glucose should have been selected for the extraction of the alkaloid, unless it were to deter experimenters from attempting to verify the alleged discovery.

Specimens of the new alkaloid were transmitted by the discoverers to physicians for physiological and clinical experiment, and reports soon appeared from which we learn that the action of hopeine closely resembles that of morphine, both qualitatively and quantitatively. It strikes one as a little singular that the first reports, which came respectively from Dr. W. T. Smith, of London, and from Dr. M. Roberts, of New York, should have been published in German, in a Berlin medical journal, the *Deutsche Medizinal Zeitung*. The physicians named would seem to be remarkably free from the itching for fame which generally prompts men who happen to be the first who have penetrated any of the secrets of nature to proclaim in the ears of all their neighbors their discovery. That these gentlemen, however, acted in perfect good faith in their respective communications to the (distant) public there is no reason to doubt.

It was not long after the discovery of hopeine was announced before it became known that the new alkaloid was in the market as the product of the London Concentrated Produce Company. It commanded naturally a high price, for it could only be made from wild hops imported from North America. The latest statement of the manufacturing company is that they employ the lupulin from *Arizona* hops as the source of the alkaloid. If this is true, we only wonder that they can afford to sell it at so low a price.

When we read, however, of the use of American wild hops, put up in pressed packages, we in America rub our eyes and wonder how it is that we are not better informed about matters here at home. We had always innocently supposed that pressed hops were obtained from the cultivated plant grown this side of the Mississippi.

The therapeutic action of hopeine agrees, according to all observers, in nearly every particular with that of morphine. Williamson assigned to it, however, a different chemical formula, $C_{18}H_{20}NO_4+H_2O$, that of morphine being $C_{17}H_{19}NO_3$. It is noticeable that the difference is so small that experiments must be conducted with the greatest care to make it certain that it is anything more than the result of errors of observation. Williamson has himself now admitted that there is also present in commercial hopeine a variable proportion of an alkaloid isomeric with morphine, to which he gives the name of isomorphine. This discovery, however, he seems to have made only after hopeine had been made the subject of critical examinations in France and Germany, and had been shown to agree in chemical behaviour in every particular with morphine.

The facts, as they appear from the full report of Dr. Dujardin-Beaumetz, of Paris, are that the article sold as hopeine differs from morphine only in the circumstance that it has a hop-like odor and flavor, which, however, is easily removed by the simplest process of purification, showing that it had been intentionally introduced into or retained in the preparation. Some samples of the alkaloid, indeed, had a flavor of oil of wintergreen in place of that of hops. Dr. Dujardin-Beaumetz is driven by the logic of the facts as revealed in this investigation to conclude that either morphine is a constituent hitherto strangely overlooked in chemical examinations of hops, or else that the article sold as hopeine was in reality the product of papaver somniferum; in other words, ordinary morphine commanding, under a fictitious name, ten times its legitimate price.

The profession is to be congratulated on the failure of what we cannot regard otherwise than as an infamous attempt at a wholesale fraud. There is food for thought in the fact that such a scheme, based upon the assumption that physicians were too little familiar with the scientific facts of chemistry to discover even so barefaced an imposition, was so nearly successful. On the authority of Dr. Hoffman, we are assured that prominent medical men in New York have become identified unwittingly with a still more outrageous scheme, if it is true that kaskine is as the doctor avers, nothing but saccharum album. We believe it is the physician's own fault if he is thus victimized. He has allowed his mind to become confused with regard to his relations to the art of pharmacy. To the pharmacist he has properly relegated the details of the processes by which his own purposes with regard to the use of remedies can be carried out. He should not expect the pharmacist to go beyond this sphere, and offer to him new combinations and new remedies, unless it be done in the way of modest suggestion. In fact, the pharmacist is now urging upon him, under one specious pretence or another, a class of preparations which are no whit better than the secret nostrums commonly known as patent medicines. If the physician has so little independence as to accept these ready-made prescriptions, whose composition is either wholly concealed or only vaguely shadowed, and generally falsified, in their alleged formulæ, he must expect that men who are unscrupulous about the means of acquiring riches will take every advantage of him; and he will have the mortification to find, before long that his profession is selected by sharpers as the most favorable field for confidence operations.—*Therapeutic Gazette.*

LANOLIN: A NEW BASIS FOR OINTMENTS.—In an address published in the *British Medical Journal* of Jan. 16, 1886, Dr. Oscar Liebreich, Professor of Materia Medica in the University of Berlin, says: In presenting the substance lanolin as a new basis for ointments, I am far from declaring that all questions touching its pharmacological uses are entirely solved. Lanolin is so peculiar a substance, that its varied employment will doubtless bring many new qualities to light—qualities which, as can already be foretold, belong neither to glycerine fats nor to mineral oils. However, the investigations I have made enable me to assert even now that lanolin is in every way a thoroughly efficient preparation for use in treatment by salves and ointments, and that it answers many requirements which the glycerine-fats and mineral oils (such as vaseline) at present employed have not been able to fulfil satisfactorily.

Of late, increased attention has very justly been given to treatment by ointments and plasters. The substances made use of up to the present are glycerine-fats, and, of late years, mineral fats, such as vaseline, which is obtained from the waste products of petroleum-distillation. The *Pharmacopœia Germanica* has even admitted as a basis for ointments, paraffin ointment, which is produced by a mixture of solid and liquid paraffin. Well-founded objections have been raised to the employment of this substance. Quite apart from the fact that the absorption of medicaments when mixed with pure fat, is but imperfectly affected, fat-ointments are subject to decomposition, which may lead to irritation of the skin. It is true that vaseline does not decompose, but it prevents the entrance of medicaments into the skin, so that even poisonous substances, when mixed with vaseline and rubbed into the skin, produce neither local nor general symptoms of poisoning. Paraffin ointment must be considered as still less efficacious than vaseline. Even when most carefully prepared, its component parts separate out after a time, and nothing is more certain than that the ointments, ointment of iodide of potassium, etc., in their present form of paraffin ointments, are totally without effect. I have always advised the old-fashioned mode of preparation with fresh fat in the case of these ointments.

I was surprised to find the extreme ease with which cholesterine-fat can be rubbed into the skin; since it has its origin in keratinous tissue, I think it likely that this absorption is in connection with the rapid passage into the skin. To the combination of this neutral fat with water, I have given the name of "lanolin." I owe the pure material necessary for my investigations to the kindness of Messrs. Jaffé and Darmstädter, of Charlottenburg, who manufacture lanolin by transforming the wool-fat into a milk, and then subjecting it to centrifugal action. By this process a thin milk and a thick cream are obtained, just as when milk is subjected to centrifugal action; and the cream contains lanolin in a pure condition.

The pure fat (pure lanolin) has its place, as already described by Berthelot, between resin and fat; and it has a capacity of absorbing water unapproached by any substance known to me. More than 100 per cent. of water can be kneaded with it, the result being a light yellow, very plastic ointment. Lanolin is not soluble in water; but, by the addition of soap and alkali, a decided milky emulsion is at once formed. One of its most important characteristics is its perfect neutrality. Lanolin is with difficulty decomposed by the action of alkalis; hence, its self-decomposition is impossible. It is noteworthy, also, that this fat combines easily with glycerine, and that, in this combination, it can with ease be mixed with every other fat. In this way, a great variety of agreeable, cream-like ointments can be produced. Lanolin has a slight smell. Of therapeutic experiments, I may mention that, in contrast to fat or vaseline ointments, a 5 per cent. carbolic lanolin ointment rubbed on the hand produces, after one or two minutes, a numb feeling without irritation. The absorption of lanolin-sublimate ointment (1 in 1,000) is so rapid that, a few minutes after the application, the characteristic metallic taste is observed.

These observations clearly indicate the efficiency of lanolin as a basis for ointments.

NOTE ON LEWININ, THE NEW LOCAL ANÆSTHETIC.—In the editorial columns of the *Medical News* of February 13, 1886, there is given a brief account of the physiological properties of a semi-fluid resin obtained from the root of *Piper methysticum*. In the method employed in obtaining it (extraction by petroleum-ether) two resinous bodies are obtained, the resin of lesser density only being efficient. To this body Lewin, its discoverer, applies in his original communication the rather cumbrous title of "Alpha Kawa Resin," for which I have ventured to substitute the name lewinin, as above. Although I have not been able to obtain, in my experiments with the extract in question, results as marked as those presented by Lewin, several points of clinical interest have arisen, which will, I think, be of interest. When the semi-fluid lewinin is placed upon the tongue, there is a momentary burning sensation with increased salivary secretion, followed by a local numbness, which, while extremely superficial, is recognizable for more than hour. Some pallor of the mucous membrane at the point of application is noticeable. I have several times swallowed about five grains of the extract thus placed upon my tongue without appreciable results other than those noted. Lewinin is too painfully irritating to apply in practice to the human conjunctiva, but it is my belief that, by the previous application of cocaine, the lewinin in solution could be instilled into the conjunctival sac, and produce its characteristic effect of prolonged local anæsthesia before the more temporary effect of the former drug had passed off. The extract will probably be of service in dental practice, as its application certainly mitigates the discomfort of operations on the teeth of those suffering from sensitive dentine. The most marked practical benefit, however, to be expected from the use of the drug is in cases where only a relatively superficial anæsthesia is desirable. Thus, as would have been expected, the drug is of value in rhinological practice. Dr. Harrison Allen, to whom I handed a fifty per cent. alcoholic solution of lewinin, kindly reports that, in practice, he has found a number of cases of nasal trouble in which the drug could not only be availably substituted for cocaine, but in which its action was more satisfactory.—Dr. N. A. Randolph in the *Medical News.*

URETHAN.—Since October, I have been using urethan in a variety of cases with satisfactory results. I have used it in over fifty cases as a sedative and hypnotic, and my experience of its action encourages me to recommend the drug, believing that in certain cases it will prove of great value. The cases in which I have prescribed it were of the usual run of every-day practice, where a sedative or hypnotic was required: general restlessness, sleeplessness, neuralgia, catarrh, certain forms of skin affections with great irritation, also rheumatism and gout. Many of my patients had some peculiarity of constitution which prevented the use of opiates of the usual type; and it is in this special class that I think urethan will prove of great value. One gentleman who had suffered from insomnia for weeks, and who cannot tolerate opium or chloral, took fifteen grains at bed-time with the most perfect result. He wrote to me and said: "The sleep caused was most pleasant and refreshing. I awoke without a headache, with appetite for breakfast, and, what was equally agreeable, there was no interruption to any of my functions." Similar testimony has been given by the majority of patients who have taken full doses to produce sleep. In smaller doses its action is less marked; still, it is decidedly calmative and agreeable, causing no unpleasant effect, such as nausea, flatulence, constipation, or headache. It does not affect the nerve centres of circulation or respiration, but spends itself on the cerebrum. It possesses, therefore, great advantages over the older and valuable sedatives, which have certain evil influences, especially in exceptional cases. Given in gout and rheumatism in full doses, alone, or in combination, it has the great advantage over morphia of not interfering with the action of the bowels or kidneys; besides, it is not unpleasant to the taste; the only objection to it is its price, although that has been reduced fifty per cent. since I gave my first dose, three months ago.—Dr. A. S. Myrtle in the *British Med. Journal.*

VIBURNUM PRUNIFOLIUM IN ABORTION. (Dr. W. Macfie Campbell, M.D., in the *British Med. Journal.*—Since the publication of Dr. Wilson's paper in the *Liverpool Medico-Chirurgical Journal* of January, 1885, I have had the opportunity of testing the use of viburnum prunifolium, so much vaunted in America, in several cases of threatened miscarriage, and I can entirely endorse the good opinion he has formed of it. Nothing, probably, in midwifery is more disappointing than the ordinary routine treatment of miscarriage by opium or

Indian hemp, on the one hand, or ergot on the other. For these drugs as often act in the way contrary to the prescriber's intention as in accordance with it. How often has a dose of Battley's solution, administered to arrest uterine action and give rest and ease from pain, been followed by immediate and severe expulsive pains, while the attempt to empty the uterus by a dose of ergot has resulted in a perfect calm and a disappearance of symptoms. It is a comfort thus to have some hope of success in dealing with such a condition as miscarriage; and although I have so far only the notes of six cases, of which five were successful, yet, these five being consecutive, and the effect exactly following the administration of the remedy, I have no hesitation in my own mind in giving the credit to the viburnum. The case of failure was my first.

Case I.—Mrs. B., two months pregnant, had discharge of blood, with uterine action. She was treated in the usual manner, with opium and rest for two days, when extract of viburnum, in two-grain doses, three times a day, was ordered. There seemed no effect upon the pains, the os continued to dilate, and the uterus was soon empty. Perhaps the dose was too small*; at any rate, I had lost two days, which I take to be the reason of the failure.

Case II.—Mrs. H., pregnant for the seventh time, two months and a half, was awakened by a gush of water early one morning, followed by a bloody discharge. On examination, the os was soft and dilatable. She was kept in bed, and given at once three grains of extract of viburnum every four hours. There was no return of bright blood, and the discharge gradually ceased. The relief to the pain after the first dose was in this case very marked.

Case III.—Mrs. B., in her sixth pregnancy, one night during the fifth month was wakened by the "breaking of the waters," the escape being sufficient to saturate her night-dress and bed-clothes. This was followed by pains. I saw her in the early forenoon, and gave three grains of the extract three times a day, and there were no further symptoms.

After reciting three other successful cases, he concludes as follows: It does not do to build too much upon the result of these few cases; but I have been so constantly foiled in my endeavors heretofore to prevent miscarriage, that I hope to have found in viburnum the sure arrester of uterine action, which we certainly at present do not possess. As recommended by Dr. Wilson, I prescribe the solid extract prepared by Messrs. Clay and Abraham, of Liverpool, from the liquid extract.

In a later issue of the *British Medical Journal*, W. E. Green, M. R. C. S., refers to Dr. Campbell's communication, and states that he is glad to be able to give additional corroborative testimony. He has of late used the drug in every case occurring in his practice, and with so much success that he now approaches the treatment of such cases with far greater confidence than formerly. At least twenty cases have been so treated by him, and in quite two-thirds the result has been satisfactory. The failures have always been due to some imprudence on the part of the patient, or to other cause beyond the control of the medicine.

He then goes on to say: Only a few days ago I received a most grateful letter from the husband of a patient, saying that his wife had been safely delivered of a healthy child at full term on the previous evening. This lady was visiting Sandown, and on August 31 had a serious attempt at abortion, but, thanks to the repeated doses of viburnum, was able to proceed home, a distance of over eighty miles, including several changes, and a short sea-passage, on September 2. She had never previously gone beyond the fourth month of pregnancy. I

***In repeated large doses it is apt to give rise to headache.**

have always used the fluid extract prepared by Parke Davis and Co. I first give one teaspoonful in water every hour until the urgent symptoms subside, and then prescribe it three times a day until the patient has recovered. It is always well to order a few doses to be taken about the time when the periods are due in the ordinary course, for at such times these patients appear more than usually liable to abortion. Unfortunately the remedy has both an unpleasant smell and taste. Therefore, if an equally reliable solid extract can be procured, it would be better given in the form of a pill. At the same time, it must be borne in mind that the liquid extract is more easily and quickly absorbed.

THE VALUE OF "BROMIDIA."—Leslie Phillips, M. D., M. R. C. S., of Norton House, Birmingham, Medical Officer of Health for Bolsall Heath, says in regard to this preparation: "I have used bromidia in a case of commencing insanity with the happiest results. The night frights and alarms, which had previously caused the sleep to be quite unrefreshing, were entirely removed by a nightly drachm dose, and the general condition consequently was much improved. Other drugs seemed useless, while bromide of potassium was distinctly harmful."

In other cases, in which chloral alone acts unsatisfactorily, it can sometimes be used with excellent effect.

CONCEALING THE TASTE OF QUININE.—Recently Professor Hugo Engel discovered a method which really promises to be of great value. The doctor had been in the habit of prescribing in the moist stage of bronchitis equal parts of muriate of ammonia and powdered extract of glycyrrhiza, which is besides probably the only remedy which will give relief to those patients who have a great deal of trouble, mainly in the mornings, ere they can expectorate the hardened round piece of scab and mucus which, in consequence of a slight ulceration is apt to accumulate in cases of chronic catarrh of the posterior nares. One to two teaspoonfuls of the compound, largely diluted with water, and taken three times daily, generally establish a cure of this annoying complaint within three or four days, while a great improvement sets in the first twenty-four hours. About a month ago Dr. Engel, while again prescribing this powder to fulfil a special indication in the case, added four grains of quinine to each forty grains of the powder. He told the patient, who had previously taken the powder alone, of the bitter taste he had to expect, and was not a little surprised when the patient informed him that he detected no such taste whatever. Since then, Dr. Engel has tried the same combination in a number of cases, and also induced some colleagues to make use of it, and all agree that it is the best method yet discovered to conceal the bitter taste of quinine. Children usually like liquorice, and, as a small dose of muriate of ammonia probably never can do harm when quinine is indicated, we possess now the means of administering quinine to young children without the trouble formerly connected with this remedy. The following combination seems to be the best for the purpose:

℞. Quiniæ sulphatis,
Ammoniæ muriatis, āā gr. j.
Pulv. extracti glycerrhizæ, gr. iv.
M. Ft. pulvis. S.

In the same proportion, larger doses may be given, but it does not seem to be necessary to take more than ten grains each of powdered extract of liquorice-root and muriate of ammonia to ten grains of quinine, so that probably after a certain quantity of quinine, that of liquorice need not be increased in the same ratio as has to be the case with smaller doses. Persons with a sensitive palate, about two minutes after they have taken this compound quinine-powder, have a slightly bitter taste, which, however, soon ceases. It is scarcely necessary to add that the muriate of ammonia and the powdered extract of liquorice-root must be finely powdered and intimately mixed, and kept in a dry and warm place. There should also first be added only a little water, the same as we do in the case of flour when we wish to make a paste, otherwise the liquorice swims in the form of little balls in the water, and is then difficult to dissolve. As soon as the whole—the muriate of ammonia, the powdered extract of liquorice-root, the quinine, and the water– forms a homogeneous mass of syrup-like consistence, the remainder of the water, about half a tumblerful for twenty grains of the muriate of ammonia—otherwise the latter may cause griping—may be added. —*Med. and Surg. Reporter.*

As the taste of muriate of ammonia is very disagreeable to most persons, there seems no good reason for adding it to quinine (unless it is itself indicated as a remedy), when we have such a pleasant vehicle for the tasteless administration of quinine in suspension in the combination of liquorice and aromatics known as "Quineptus," which has for some time now been before the profession.

SODIUM IODIDE *versus* POTASSIUM IODIDE.—The *British Medical Journal* thus concludes a leading article devoted to a comparison of the effects of these two remedies: To sum up, then, we may claim for sodium iodide that (1) it can be used therapeutically for almost all, certainly the chief, purposes for which potassium iodide is used, and with similar beneficial results; (2) that sodium iodide is more assimilable than the iodide of potassium, both locally to the digestive organs, and to the general system; (3) that as a result, many of the local and general undesirable effects which are produced by the potassium iodide, do not follow the use of the sodium iodide. It is to be hoped, therefore, that the sodium iodide will be used by those whose clinical advantages allow an extensive trial of the drug, so that a more extended experience may confirm that which a limited experience seems to claim for this drug.

THE USE OF LACTATED FOOD.—The well-known authority on dietetics, Dr. J. Milner Fothergill, of London, says, in a letter to Messrs. Wells & Richardson Co., manufacturers of this article: The food then contains carbo-hydrates, some albuminoid matter, and the various salts in grain—notably phosphate of lime. Such a food can be added to milk and treated in the manner you describe in your leaflet. So prepared with milk it forms an admirable food for infants and dyspeptic persons who require very digestible aliments. But it has a wider range of utility. The body temperature is kept up by the combustion of grape sugar. Grape sugar is supplied from carbo-hydrates—either the insoluble starch, or the soluble sugar. Starch forms a great portion of our food, and is converted into grape sugar within the body. Where the system is unequal to the digestion of starch, as in feeble digestion, or conditions of acute disease, then predigested starch must be furnished to the organism. Otherwise the system will perish of exhaustion, just as a fire dies out when its fuel is consumed. Beef tea contains nothing which can form grape sugar, and, in fact, is a pleasant stimulating beverage or food adjunct, but without food value practically. But, when it has added to it a food such as your lactated food, it has a distinct, measurable food value. Consequently, such food should be given with beef tea, and the compound forms a valuable food. When lactated food is placed in water hot enough to be sipped, a rapid transformation of the starch remaining in it (by the diastase it contains), goes on; and a nutritive fluid is the result, which requires but a minimum of the digestive act. Such fluid can be flavored and drank as a nutritive beverage, specially acceptable in febrile conditions. Flavored with lemon, ginger, cloves, or other flavoring agents to give variety—a matter far too much neglected in the treatment of the sick—it can be largely used. Or wine, either red wine as claret, or sherry or port, can be added to it when a little stimulant is required, and brandy when a stronger stimulant is indicated. The resort to farinaceous matters, predigested, must become greater as our knowledge of digestion and its derangements waxes larger. It is not merely in the case of feeble infants that such predigested starch and milk sugar are indicated and useful. Persons of feeble digestion require these soluble carbo-hydrates which they can assimilate. But to my mind an equally great matter is the feeding of persons acutely sick, and especially where there is pyrexia, who now are allowed to perish of inanition, on the mistaken conviction that beef tea is a sustaining food. It is in the sick-room that soluable carbo-hydrates have a great future before them.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK ACADEMY OF MEDICINE.

Stated meeting, April 1, 1886.

Dr. Henry C. Coe read a paper entitled,

IS DISEASE OF THE UTERINE APPENDAGES AS FREQUENT AS IT HAS BEEN REPRESENTED?

In commencing his essay he stated that agnosticism in regard to ovarian and tubal disease meets with very little encouragement at the present day, and this is due, to a large extent, to the surgeon. Having put the query, "What constitutes a normal ovary?" Dr. Coe said that this was a thing which has come to be somewhat problematical, except in the case of some of the lower animals. In considering the condition and appearance of the ovary in any given case, it must not be forgotten that during the entire sexual life of the female constant changes are going on in these organs. Hence, it is very difficult to say where the normal ends, and the pathological begins. Nothing is now more frequent than to remove ovaries because they are "cystic," on the ground that in consequence of this condition they are functionally useless. Yet Dr. Coe has seen cysts as large as a marble which could not be called pathological, because they contained perfectly healthy ova which were certainly capable of being impregnated.

Taking up the pathological conditions of the ovary, as viewed by the laparotomist, he said that many of the variations of the organ, in size and shape, which were commonly regarded as pathological by him, were found in ovaries which were to be regarded as, in fact, altogether normal, at least, so far as function was concerned. Congestion and moderate enlargement do not necessarily imply chronic ovaritis, and indicate oöphorectomy; since when the other pelvic organs are for any reason in a condition of hyperæmia, the ovaries are naturally found hyperæmic also.

In the same way, a decided diminution in size may not be pathological, but merely an indication of senile atrophy. Again, certain conditions which are regarded by the laparotomist as pathological, such as thickening of the external covering of the organ, may not be so in reality, since such thickening is not at all abnormal in senile atrophy, or after very frequent ovulation, when localized thickening is very common, even when senile atrophy does not yet exist. But, although there may be exterior thickening, it is no indication that there is cirrhosis, of the internal stroma of the organ which interferes with its functions.

The most frequent causes for which ovaries are extirpated, however, is so-called cystic degeneration, and Dr. Coe remarked in this connection that if the slightly cystic condition which is so frequently met with in the ovary is of grave import, few women are free from the danger of serious cystoma.

He next passed on to consider the subject from a microscopical point of view. In order that the pathologist may give an intelligent opinion concerning any removed ovary presented to him for examination, he must be familiar with the normal histology of the organ, and, on account of the constant changes going on in the ovaries, previously referred to, this is a matter which involves no little difficulty. The pathological appearances of well-marked disease are easily recognized; but the lesser ones must be acknowledged to be very difficult to differentiate. Again, because one portion of the organ is diseased, it is no reason why the whole of it should be involved in the pathological process; and, acting on this principle, Schröder has lately been operating in such a way as to remove the diseased portions and allow the rest to remain. The number of cases thus far recorded, however, is too small to base any positive conclusions upon as to the practical utility of this method. At present, this seems somewhat problematical; but it is, at all events, gratifying to note it as a step in the right direction.

Tubal disease.—During the three years that have elapsed since Tait called special attention to this condition, and Thomas popularized Tait's operation in America by his paper before the Academy of Medicine, this procedure has been resorted to an immense number of times; and there can be no doubt that it has been greatly abused. No reasonable objection can be raised to the removal of Fallopian tubes which are filled with pus; but this is not the case with a large number of the tubes that are taken out.

Tait says that in chronic disease of the ovaries the tubes are always affected; but Dr. Coe denied this, as the result of his personal pathological observations. Some of the so-called diseases of the tubes are not recognizable by the pathologist at all. There is no doubt about pyosalpinx or hydrosalpinx, when these conditions are present; but as to so-called catarrhal salpingitis, "commencing pyosalpinx," and other presumed pathological conditions which constantly pass unchallenged in learned societies, there is very good reason for doubt. In cases where the diagnosis of catarrhal salpingitis has been made, and the tubes and ovaries removed in consequence of the condition, Dr. Coe has found, on subsequent examination, simply moderate hyperæmia, with a thin coating of mucus, which may exist in a perfectly normal Fallopian tube; there being no evidence of inflammation whatsoever. So long as the lumen is free and the lining mucous membrane capable of performing its function, the tube is not abnormal, notwithstanding the fact that there may be slight adhesions of the fimbriated extremity.

From his examinations he would say that pyosalpinx exists in about one-fifth of the cases where Tait's operation is performed. Hydrosalpinx is considerably less common, and hæmatosalpinx is extremely rare. If there is no pus discoverable, there is certainly no pyosalpinx; just as in general practice we say in a case of suspected abscess, that if there is no evidence of pus, there is no abscess.

The pain that is so often attributed to disease of the tubes, Dr. Coe believed to be generally due to localized peritonitis or to neuralgia pure and simple. There can be no doubt that far too many tubes and ovaries are removed at the present day, and the one criticism that he would make on American laparotomists is, that they do not follow up their cases for a sufficiently long time. As a rule, they are reported very shortly after the operation, when the results often seem all that could be desired; but if the histories could be given of the condition from six months to two years later, it would not infrequently be found that no permanent improvement whatever had resulted from the procedure. He has met with many women under these circumstances who still have the same pain as before the operation.

The deductions drawn by Dr. Coe were somewhat as follows:

(1) Ovarian disease is not as common as it is now generally supposed to be. This impression is derived from the surgeon, and not the pathologist.

(2) Because the ovary is partially diseased, it does not follow that the whole organ is implicated.

(3) "Cystic" and "cystic degeneration" are mischievous terms, which have been productive of much evil by leading to false conclusions, and unnecessary ovariotomies in consequence.

(4) Actual disease of the tubes is far less frequent than many surgeons would have us believe.

(5) Localized peritonitis will account for much of the trouble attributed to disease of the uterine appendages.

Dr. Coe said, in conclusion, that, while the normal histology of these organs is not well understood, and their various pathological conditions must, therefore, necessarily be regarded as still *sub judice*, he was heartily in favor of the performance of laparotomy in all perfectly legitimate cases.

Dr. Lusk said that the author of the paper had covered nearly all the ground which he had himself been accustomed to take in the tirades against the abuse of Tait's operation, with which many of his gynæcological friends are now familiar. He was by no means an enemy of the operation, and thought it did great good in its place; but he had to say that he had stood by and seen tubes removed which are described by various pathological names, but which seemed to him entirely normal. In the same way he had seen ovaries taken out, of which it was said that they were in a state of commencing cystic degeneration, but which appeared to him typical examples of physiological ovaries, precisely like those he had formerly been accustomed to exhibit to his class as such, when he used to teach the branch of physiology. He then took great interest, he said, in pointing out the changes which are constantly going on in these organs; and these so-called cystic ovaries, which had been removed for merely imaginary disease, were simply ovaries which were undergoing these same physiological changes.

Since surgeons had come to be able to remove the ovaries and tubes with comparatively little risk to the patient, the operation, he believed, was performed entirely too frequently. Tait's advice is to cut open the abdomen and examine the condition of the ovaries and tubes; when, if they are found all right, they are to be returned to their places in the pelvic cavity. But he himself had yet to meet with the surgeon, who, after getting thus far in the operation, did not take out the organs altogether, whatever their condition might be. He believed that there are very few cases in which the condition of pyosalpinx cannot be diagnosticated by proper manipulation with the fingers of one hand in the vagina, and that the great mistake of the present day is the too frequent opening of the abdomen. Unless the enlarged tube can be felt, in the manner described, outside the body, the operation ought not to be performed; and unless this rule is adopted, the temptation is to take out too many tubes.

He then went on to say, that it seemed probable to him that in the future a modification of Tait's operation would come into vogue, which would obviate the necessity of removal of the tubes even in pyosalpinx and hydrosalpinx. The time would come, he thought, when these distended tubes would be evacuated through the vagina by means of some such instrument as Dr. Mundé had devised, which consists of a syringe with a hypodermatic needle attached to it. In this connection, he related a case of pyosalpinx which had recently come under his observation. He had secured the pavilion at the hospital for the patient, engaged the nurses, appointed the day for the performance of laparotomy, and invited a number of friends to be present at the operation; when, a short time before the time fixed for the latter, the woman noticed an unusual discharge from the rectum, and in a day or two the tumor caused by the distended tube had completely disappeared.

Dr. W. Gill Wylie said that in the cases in which he had operated, his ground for doing so had been the symptoms of the patient and what he could detect before opening the abdomen. He had always been especially careful as to diagnosis; and, while at first he did not feel so sure about the matter, he could now, after etherizing the patient, almost always tell exactly what condition he was going to find upon performing laparotomy. At the present time he very rarely does the operation except for pyosalpinx. Unless the *symptoms* justify it, he does not operate, whatever the condition that is indicated by local examination. There are many cases of pyosalpinx in which the enlarged tube falls behind the round ligament, and there is very little danger of its bursting in to the peritoneal cavity. It is a nice point in diagnosis to distinguish those cases that are likely to burst and give rise to peritonitis; and in instances where there have already been several attacks of localized peritonitis, this result is to be apprehended. When, however, the diseased tube is folded under the broad ligament, the pus, as a rule, points below.

Dr. Wylie went on to say that he operated to cure his cases, and in order to produce a cure, there is no operation that can compare with laparotomy. Aspiration merely evacuates the pus, which is sure to return, and this procedure may cause fatal injury by wounding the ureters, etc. As to the matter of peritonitis, he believed that the vast majority of cases, perhaps ninety-nine out of one hundred, of local peritonitis are associated with disease of the ovaries and tubes.

Dr. Wm. M. Polk said that Dr. Lusk had remarked that in the ease with which the operation is now performed lies the great danger of its abuse. But at the same time he would like to add this fact, that salpingitis is by no means a new disease. It is a pathological condition which has always existed, and which, morever, has been cured in a large number of cases without laparotomy.

These are cases which used to be treated, in accordance with the suggestions of Emmet and Sims, by putting the patient to bed, using opium freely, and poulticing the abdomen. The women got well, with sound ovaries and tubes, and afterward had children. In a case of this so-called pelvic cellulitis (as it was formerly considered), he asked a distinguished New York gynæcologist to make an examination. He did so, and pronounced it to be undoubtedly one of cellulitis. Dr. Polk insisted that he was mistaken, and said that he would prove it if the gentleman would come to the laparotomy which he proposed to perform in the case in three weeks' time. Accordingly, he was present on that occasion. There were induration on one side, and a laceration of the cervix involving the vaginal roof Dr. Polk cut open the abdomen, and it was found on examination that there was a cicatricial thickening in the roof of the vagina; but in between the layers of the broad ligament there was no induration whatever. In fifteen cases in which he would have made the diagnosis of cellulitis, according to the views in which he was educated, he had performed laparotomy and taken off from the posterior fold of the broad ligament a conglomeration of ovaries, tubes, and new tissue; but, as in the instance just mentioned, there was no induration at all between the layers of the broad ligament, although on external manipulation there had been found a hard mass or tumor in the neighborhood of the broad ligament. He believed, therefore, that the cases now recognized as pyosalpingitis are those formerly called pelvic cellulitis, and often successfully treated by confinement to bed, opium, poulticing, the douche, etc. As a rule, such cases get well; but sometimes they terminate fatally.

The peritonitis which he was accustomed to find he thought came through the tubes. Dr. Coe had said that disease of the tubes is rare; but he must confess that he met with it very often. They did not always contain pus, but, at all events, they presented the evidences of previous inflammation. From his experience in connection with this subject, he had reached the conclusion that localized peritonitis is usually produced from extension of inflammation from the interior of the uterus. Inflammation prefers to take the course which is open to it. In a large number of cases of so-called cellulitis the trouble is preceded by ordinary endometritis, which may be produced in a thousand ways. This leads directly to inflammation of the tubes, and, finally, of the peritoneal cavity. A simple catarrhal inflammation can as easily extend to the peritoneum as can the poison of gonorrhœa. He would not say that the inflammation might not in certain instances follow the course of the lymphatics and blood-vessels, but this he believed to be a rare exception. The purulent collections which have heretofore been supposed to be in the folds of the broad ligament are to be regarded, except when they are the result of bad puerperal inflammation, as nothing more than the accumulation of pus in the tubes, which, if the quantity increases rapidly, is likely to escape into the adjoining tissues.

The essential point of this whole matter is, that we must change our pathological views before we can reach a unanimous opinion in regard to the advisability of operation. There are a small number of cases which require to be operated on, and they are the ones in which there is localized peritonitis with salpingitis, and usually an atrophied ovary.

Dr. P. F. Mundé said that out of 3,000 cases treated by him in private and hospital practice, 117 were put down as oöphoritis and salpingitis combined with peritonitis. This showed agreement with the views expressed by Drs. Polk and Wylie, and in his experience he had found that these three conditions almost always co-exist. Besides, there were noted 212 cases of simple, non-complicated oöphoritis. These figures, he thought, answered the question of the title of Dr. Coe's paper. He would say, therefore, that affections of the uterine appendages are quite as frequent as Tait and his followers assert that they are. He would, however, by no means say that the operation of laparotomy for their relief is required as often as they claim. Dr. Mundé said that he did not agree with Dr. Coe that pachysalpingitis, or thickening of the lining membrane of the tube, is so rare as he represents. In his experience it was quite common.

As to dilatation of the tube with fluid, it was not so common as many suppose. He had found but eight cases altogether in which he could detect apparent swelling of the tube. In four of them he aspirated, and drew off a watery serum which contained no ciliated epithelium. He agreed with Dr. Wylie as to the propriety of being guided principally by the symptoms in determining as to the advisability of an operation in any given case. Most of those who were acquainted with his views, he said, knew that he was very conservative in regard to these operations. So long as we in America could not open the abdomen without exposing the patient to the danger of death, laparotomy should not be performed when the pathological condition present is doubtful; and he thought the lines should be more closely drawn than has hitherto been the case. Dr. Mundé said, in conclusion, that he did not agree with Dr. Polk in his views in regard to pelvic cellulitis and abscess. These, he thought, actually existed in the pelvic cellular tissue.

Dr. E. Noeggerath said that he was glad to hear the views expressed by Dr. Polk. They were practically the same that he had himself expressed in 1872, viz., that the large majority of cases of peritoneal inflammation are of intrauterine origin, and that while cases of cellulitis and parametritis do occur, it is only when there has been a lesion of the uterus, when the lymph-sac of the lining membrane of the uterus has been broken, as the result of parturition, abortion, etc. Otherwise (if there has been no lesion), the inflammation always extends by means of the tubes. As regards the question of frequency, he said he could only repeat what he said in 1872. Endometritis and periovaritis or salpingitis are the most common affections the gynæcologist has to treat. After childbirth, cellulitis is more apt to occur. In regard to the treatment, he said that he was entirely convinced that it is possible to relieve a great many of the cases which are now operated on by careful treatment, consisting of local and general medication.

Dr. Coe, in closing the discussion, remarked that the views expressed in his paper were based on anatomical studies, and he was, consequently, disposed to regard with some doubt a diagnosis resting solely on clinical observation. Feeling that the position which these anatomical studies had caused him to take might perhaps be more radical than that held by some other pathologists, he had written to the distinguished microscopist, Dr. William H. Welch, now of the Johns Hopkins University, Baltimore, who has had a very large experience in the class of cases in question, and Dr. Welch had written to say that he believed that his position was the correct one. He stated that he saw very few cases of pyosalpinx, and that he was continually receiving ovaries and tubes, removed by surgeons, which were so far as could be made out, entirely free from disease. He said, in addition, that it was in his opinion a mistake to suppose that the so-called cystic ovaries so frequently extirpated would, if allowed to remain, degenerate into true cystoma.

MISCELLANEOUS.

Some Famous American Surgeons.—Ephraim McDowell, the originator of ovariotomy, was born in Virginia, but earned his great reputation at Danville, Ky., the centre of culture in the Blue Grass State. His medical education was received at Edinburgh, Scotland, where he was a pupil of the great John Bell. His first ovariotomy was performed in 1809. He died in 1830, leaving a never-to-be-forgotten name, and full of honors.

B. W. Dudley, Kentucky's greatest surgeon, went to Europe in 1810, and served under Abernethy and Cooper in London, and Boyer and Larrey in Paris. When he returned from Europe he assumed Frenchified manners, which were rather new to the Lexington of 1814. Dudley's great hobby was rest as a cure for disease; he believed in bandages and quiet in fractures and dislocations. He was known as the Knight of the Roller, and as to bandages it is claimed that America never had his equal in skill and manual dexterity. Dudley died in January, 1869, aged eighty-five years. Trephining the skull for epilepsy was first practiced in America by Prof. Dudley at Lexington. It was a revival of the old operation of La Motte in the United States. The *Transylvania Journal of Medicine* contains the particulars of five cases of this operation performed by him.

Dr. John Bard, of New York, performed the first gastrotomy operation in the United States, in 1759. The next two operations were successfully performed in 1791 and 1799, by Dr. William Baynham, of Virginia. (*See New York Medical and Philosophical Journal*, 1809.) The first work on obstetrics published in the United States by a native author was that of Dr. Bard in 1807.

The largest number of calculi ever removed from the bladder was over one thousand, the patient being Chief Justice Marshall, of the United States, and the operator the celebrated Dr. Physick, of Philadelphia.

Dr. I. C. Nott, of Mobile, Alabama, was the first to describe and operate for coccygeal neuralgia, in 1844. (See *New Orleans Medical Journal*, 1844.) This disease should be entitled to the name of Nott's disease, in honor of its discoverer.—*Cincinnati Lancet and Clinic.*

An Odd Name For a Gin-Mill.—On Second Avenue, in this city, there is a liquor saloon which rejoices in the remarkable appellation of "The Aqueduct." Unless some occult reference to the diuretic virtues of the geneva and cerevisia therein dispensed is meant to be implied, one would think the name about as appropriate for a milk dealer's establishment.

A Will Signed By a Dead Man.—A man recently appeared in the Surrogate's Court at Williamsburgh, L. I., to obtain the probate of the will of his brother, who died in January last, leaving a small estate. In the course of the formal questioning put to him he was asked if his brother had, after signing the will, declared it to be his last will and testament; to which he replied that his brother was dead when he signed it. He then explained that the pen was put between the fingers of the dying man, and a friend moved his hand. When the name was finally completed, it was found that he was dead. Uncertainty in regard to the legality of such a signature, induced the Surrogate to postpone the probating of the will.

AN EVIDENT SIGN OF SENILE DEMENTIA.—Uncle Rastus (to magistrate)—Yo' musn't be too ha'd on er poo' ole man, Sah. I's a orphan.

Magistrate—How old are you, Uncle Rastus?

Uncle Rastus—'Bout sebbenty, Sah.

Magistrate—It's hard lines to be an orphan at your age.

Uncle Rastus—'Deed 'tis, Sah. My poo' ole mudder died two months befo' I was bo'n.

Magistrate—Don't you mean your father?

Uncle Rastus—P'raps I does, yo' Honah. I specs I's not in my right min' or I wouldn't 'tempt ter steal chickens from a man what keeps a yaller dawg.

CAUSE FOR VEXATION.—Florida Hotel Proprietor (to steward)—Has that alligator ordered yesterday got here yet?

Steward—No, sir.

Proprietor (angrily)—Well, this is a little too much, and a new batch of Northern invalids just arrived. You will have to scratch stewed terrapin off the bill of fare.

BAD ENOUGH.—The *Lancet* minimizes the illness of the Princess, declaring she is only under the influence of "a common cold." "Only a cold," was the reply of a patient to a query from Abernethy. "Only a cold!" repeated the great medico; "what the devil would you have, the plague?"—*London World.*

PATHOLOGICAL GEOGRAPHY.—A young man in a restaurant lately overheard the following conversation between two rather rough-looking, but evidently quick-witted young men who came in to get a lunch: "Hello Dick," said the first one, "what's your throat tied up for?" "Quinsy." "Quincy, Mass.?" "No, Quincy, Ill."—*Harper's Bazar.*

A PHYSICIAN'S EPITAPH.—"Here lies the body of John McLean Hayward, a man who never voted. Of such is the Kingdom of Heaven." This is the epitaph that it is understood will be placed on the headstone of Dr. Hayward, who died recently at Wayland, and who prepared his epitaph some time before his decease.—*Worcester (Mass.) Spy.*

OF INTEREST TO DYSPEPTICS.—Dr. Holmes says that "on horseback a man's system becomes clarified, because his liver goes up and down like the handle of a churn." The doctor has evidently taken a deck passage upon a Texas broncho some time during his existence, but is diffident about telling the whole truth. Liver, lights, stomach, lungs, heart, and even feet, go up and down, and if a man's system is not clarified, a portion of it is generally scarified, and when the operation is concluded he invariably acknowledges that he is "well off."—*Flatonia (Texas) Argus.*

THE SPECIALISTS.—An amusing satire with this title was read at the Annual Dinner of the Faculty of the New York Post-Graduate Medical School and Hospital, March 11, 1886. It opens as follows:

'Mid sulphurous fumes, in antiseptics rich
Enough to please our Peters—cure the itch,

Great Satan sat, dark frowns upon his face,
As when one finds another's got his case.
Fiercely he muttered : "Twenty doctors more
Within two days have come within my door,
And now at last—the news quite strikes me dumb—
The porter says some Specialists have come.
Should old ambitions once these fellows seize,
If they put out their signs, take in their fees,
Sure all my toils of little use would be ;
Then I must go, this is no place for me."
TheDemon rose, and shook from off his coat
The yellow films of *U. S. Sulphur lot.*,
Uttered a cough which all Hell's regions racked,
And ordered out his baggage, to be packed.
"I'll up to Earth," he said, "for I must know
Why doctors are now rattled on me so."
Out into space he shot—a curious sight:
The Devil bent on setting things aright.

After visiting Boston and Philadelphia, he finally arrives in New York. Having described his Satanic Majesty's experiences with the various specialists of Gotham, the poet thus brings his rhymes to an end :

Some pleasures still in Satan's lot prevail,
For he at least unquestionably is male.
For him no gynæcologist could seek
Within persuasive specula to peek,
Or, with some learned name his troubles labelled,
Like Parliamentary motions, have him tabled.
I'm sure that once the Devil stopped and prayed,
'Twas when he found that he could not be spayed.
(O gentle Art, I'm sure I am not blind
To all the good you've done for womankind ;
But once 'twas woman's part to cut and sew,
While now to cut and sew her parts you go
Too oft, perhaps. Might it not be a gain
If you made less of womb and more of brain ?)

My story's done. Satan, not now forlorn,
Went to his home. (He took iodoform,
"For not," he said, "in all my realms below
Does any perfume please my senses so.")
His fright o'er specialists had left him, too,
He'd seen how well Post-Graduate Schools can do.
"Since this succeeds," he said, "I need not fear.
I'll never have too many doctors here."

REVIEWS.

THE STORY OF DON MIFF, AS TOLD BY HIS FRIEND JOHN BOUCHE WHACKER. A Symphony of Life. Edited by Virginius Dabney. Philadelphia : J. B. Lippincott & Co. 1886.

It is not often that the medical editor's library table is ornamented by a book of the character of the one before us, and this should be a matter of regret to the subscribers, for they thereby lose much pleasure. As in olden times the master of the feast first tasted of the wine, before offering the cup to his guests, so the editor should sip the sweets from all current literature before suggesting to his friends, the subscribers, at which particular font to quench their mental thirst.

It is true, however, that in these days men read less from the necessity of satisfying a mental craving, than from some definite object to be attained by study and by study alone, now that the number of new books is so enormous, and each specialty has a large literature of its own. A man, and particularly a physician, must read what he in his particular department is obliged to know. When this is done he can spare but little time for the cultivation of collateral branches and the minutiæ of other specialties. But this applies to physicians only in their professional character, and after reading the book whose title is given above we cannot but feel that we think too little of the physician as a man, and too much of him as a scientist. The summer days, however, are upon us now. Whenever the busiest of our over-worked doctors may lay aside their business for a brief holiday, and surrender themselves to relaxation and an indulgence in the sweeter and softer phases of life, they will naturally look around them for some care-dispelling agent with which they can make their leisure hours full of pleasure and refreshment. For, no doubt, they agree with Seneca that leisure without books is the sepulchre of the soul. For the furtherance of this object they cannot do better than to read Don Miff, by Mr. Virginius Dabney.

This is a book which has been long expected by Mr. Dabney's friends, and he has many; but even those who knew him best have been surprised at the genius which he has shown.

His style is so purely classical as to bring to one's remembrance pleasantest recollections of such English writers as Lamb, Thackeray, Sterne, and even Carlyle; and yet he is strictly original. He tells this simple tale of love and joy and sorrow with a delicious humor, running ofttimes into satire, sometimes into wit, but never into bitterness. His story is a sad one, but the book is enriched by a philosophy which sparkles with quaint humor, and which makes a delightful accompaniment to a narrative which some might find too sad. Mr. Dabney is a Virginian who seeks to rescue from oblivion certain phases of Virginia life which have passed away forever. In doing this he has brought into play the fine intellectual qualities and the general cultivation which for years have distinguished him, and which lead his friends to hope that "Don Miff" is but the beginning of a series of books which they may now look forward to with pleasant anticipations.

The Lippincotts have published the book with their usual good taste, and it can be obtained by an order to the author at 108 W. 49th Street, New York. Price $1.50.

MEDICAL NEWS.

The Address in Medicine at Brighton.—At a numerously attended meeting of the Council, held in Exeter Hall, Strand, on Wednesday, April 14th, 1886, Dr. Foster, M. P. (President of Council) reported the death of Dr. Austin Flint (New York), who had consented to deliver the Address in Medicine at Brighton, in August next. He was sure that every member of the Council would feel with him that, in this untimely removal of that distinguished American physician, the loss had been one which would not only be felt by the Association, as members of a common profession, but would also affect the medical profession throughout the civilized world. Dr. Austin Flint had kindly consented to come to the annual meeting at Brighton, and delight with his eloquence, and instruct with his scientific knowledge. That treat which had been looked forward to with so much pleasurable anticipation, unfortunately, could not now be enjoyed, and he (Dr. Foster) thought it only right on the present occasion to express sorrow at Dr. Austin Flint's removal from the sphere of usefulness which he so long adorned. The President of the Council moved: "That this Council has heard with sincere sorrow of the death of Dr. Austin Flint of New York, and beg to express their sense of the great loss which the medical profession throughout the civilized world has sustained by his untimely death."

Dr. Withers Moore (Brighton), President-elect, seconded the resolution, having been largely instrumental in Dr. Flint's appointment as a reader of the Address in Medicine. He was sure that Dr. Flint's death was a matter of great regret to all the members of the Council, and that they would all desire to show their earnest sympathy with the members of his family in the great loss they had sustained, in addition to the loss sustained to the medical profession. The motion was carried. The president reported that Dr. Withers Moore had taken immediate steps to fill the gap made by the death of Dr. Flint. He communicated with Dr. Foster on the subject, and after deliberation, it was thought well to apply in the first instance to Dr. Billings, who, as some would remember, delighted the whole medical profession of this country, and many distinguished foreigners, by the splendid address which he delivered on the occasion of the International Medical College in London, in 1881. Dr. Withers Moore wrote to him and received a reply by telegram, consenting to deliver the address. Dr. Foster therefore asked for approval of the action taken by the President-elect of the Association and by himself.

Dr. Withers Moore had written to Dr. Billings, expressing great sorrow on hearing of the death of Dr. Flint, and asking him to deliver the address. He had received a telegram from him, and on Tuesday a letter, in which he said he felt it a great compliment and a great manifestation of brotherly feeling on the part of the British Medical Association, that another American gentleman should be appointed to read the Address in Medicine; and that he would gladly come to read the address.

The President of the Council moved: "That Dr. Billings be requested by this Council to deliver the Address in Medicine in August next."

Dr. Withers Moore seconded the resolution, which was carried.—*British Medical Journal.*

The Late Professors Flint and Gross in England.—It is not too much to say that no men have done more by their character as gentlemen, no less than by their professional eminence, to produce in the minds of British medical men a favorable impression of their transatlantic brethren, than Austin Flint and Samuel Gross.—*British Medical Journal.*

HONORS TO SIR SPENCER WELLS.—The Council of the Royal College of Surgeons of Ireland have unanimously offered the Honorary Fellowship of the College to Sir Spencer Wells, who has accepted the distinction, which has hiterto been very rarely conferred, and only upon very distinguished men. The ceremony of conferring the honorary diploma is fixed for the 28th instant, when it is expected that Sir James Paget, Sir Spencer Wells, and other recipients of the diploma, will be present. We are also able to congratulate Sir Spencer Wells upon receiving fresh proofs of appreciation of his work, not only from Ireland, but from America, as last month the St. Louis College of Physicians and Surgeons conferred on him the honorary diploma of Doctor of Medicine of the College, "in recognition of the fact that he hath largely contributed to the advancement of the science and art of medicine." These international courtesies are very pleasant, and we should like to see a fuller recognition, by our own learned societies, of the work of our Irish and American brethren.—*British Medical Journal.*

THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.—The corner-stone of the new college buildings, the gift of the late Wm. H. Vanderbilt, was laid with appropriate ceremonies, April 24, by George W. Vanderbilt, youngest son of the deceased millionaire. On this occasion Dr. John C. Dalton, President of the College, made a brief address, and the oration of the day was delivered by Chauncey M. Depew, Esq.

Dr. Edward Curtis has resigned the professorship of materia medica and therapeutics, on account of the pressure of outside work, and Dr. George L. Peabody has been named for the position. All who are at all acquainted with the ability and attainments of the latter will recognize this as a most excellent appointment.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—Dr. Edward G. Janeway, for some time past Associate Professor of Principles and Practice of Medicine, as well as of Pathological Anatomy and Clinical Medicine, has been promoted to the chair made vacant by the death of Dr. Austin Flint. From his distinguished reputation as a pathologist, teacher and consultant, Dr. Janeway is eminently qualified for the place, and his long and intimate personal association with Professor Flint in the work of the college makes the appointment a peculiarly appropriate one.

THE ASSOCIATION OF AMERICAN MEDICAL EDITORS AND THE "WEEKLY REVIEW."—The Association of American Medical Editors held their annual meeting in St. Louis on Monday, May 3, and in the evening enjoyed a delightful dinner at the St. Louis Club, tendered them by the members of the Medical Press and Library Association in behalf of the *Weekly Review.* During the session of the American Medical Association this enterprising journal published a daily issue with reports of the proceedings.

MORE PATIENTS FOR PASTEUR.—One person from Yonkers, N. Y., and several from Pullman, Ill., have recently gone to Paris to be inoculated against hydrophobia. It is said that over seven hundred patients have now undergone the process, and that the subscriptions to the Pasteur Institute amount to more than $100,000. The Sultan of Turkey has subscribed 10,000f. and sent Pasteur the insignia of the Medjidie.

NEW YORK NEUROLOGICAL SOCIETY.—The following officers have been elected for the ensuing year: President, Dr. C. L. Dana; First Vice-President, Dr. M. A. Starr; Second Vice-President, Dr. B. Sechs; Recording Secretary, Dr. G. W. Jacoby.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The Fourteenth Annual Meeting of the American Public Health Association will be held at Toronto, Ont., October 5–8, 1886. The Executive Committee have selected the following topics for consideration :

1. The Disposal of the Refuse Matters of Cities and Towns.
2. The Condition of Stored Water-Supplies, and their Relation to the Public Health.
3. The Best Methods and the Apparatus Necessary for the Teaching of Hygiene in the Public Schools, as well as the Means for Securing Uniformity in such Instruction.
4. Recent Sanitary Experiences in Connection with the Exclusion and Suppression of Epidemic Disease.
5. The Sanitary Conditions and Necessities of School-Houses and School-Life. (See Lomb Prize Essays.)
6. The Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the best Means and Appliances for Preventing and Avoiding them.
7. Plans for Dwelling-Houses.

All persons who propose to present papers at the next meeting of the Association must be governed by the following order, enacted by the Executive Committee at Washington, D. C., December 7, 1885 : "That all papers hereafter presented to the Association must be either printed, typewritten, or in a plain hand-writing, and be in the hands of the Secretary at least twenty days prior to the annual meeting."

THE CINCINNATI SANITARIUM.—The twelfth annual report of this admirable institution shows a gratifying record of prosperity and of excellent work accomplished : 165 patients were admitted during the year ending November 30, 1885—a number exceeding by thirty the largest number of admissions for any previous year since the Sanitarium was opened, in 1873. In the steady, though gradual, growth of the institution—increasing from year to year, as it has done—assurance may be found that such an institution, in its locality, is not only demanded but appreciated. The fact that in every instance in the history of the Sanitarium, (now at the close of its twelfth year) in which the law has been appealed to by outside parties, to decide the question of propriety of detaining an inmate deprived of liberty, the conduct of the officers in detaining the person whose liberty was in question, was fully justified, is a sufficient testimonial of the careful scrutiny of conditions on the part of the officers admitting patients to the hospital for treatment.

Since the additional building of 1883, extending to a considerable degree the capacity of the Sanitarium, and embracing a remodeling of much of the original building, no architectural or mechanical improvements have been demanded. Improvements in some other respects have been considerable—notably in that of greater facilities for classifying patients more in accordance with their conditions and necessities, afforded by an increase in the number of hospital wards and rooms. During the year a number of dramatic, musical, terpsichorean, and other entertainments were given in the excellent amusement hall, on the Sanitarium grounds ; a hall that in connection with the adjoining conservatory of flowers constitutes a conspicuous and pleasing feature of the Sanitarium. The billiard hall also furnished both amusement and exercise to a considerable number of patients. The percentage of recoveries reported is extremely gratifying, and the accomplished Superintendent, Dr. Orpheus Evarts, is certainly to be congratulated on the results that have been obtained. Dr. P. Molloy, for three years the assistant physician, has resigned, and Dr. W. H. Rogers, late of Lexington, Ky., who brings to the service the benefit of fifteen years' experience in the management and medical treatment of the insane, has been appointed in his place.

A Work on Coca Erythroxylon and Its Derivatives.—In the Review Department of the last issue of the Journal was given the title of an excellent compilation recently published by Messrs. Parke, Davis & Co., for presentation to the medical profession, of the facts now at command in regard to the coca shrub and its derivatives, especially its alkaloid, cocaine. The practitioner will find in it a very convenient *résumé* of their properties and the various uses to which they have been applied in medicine and surgery, as derived from a pretty thorough examination of recent medical literature; although, curiously enough, no reference is made to Dr. J. Leonard Corning's method of producing prolonged anæsthesia by deep-seated confined injections of cocaine. It is a handsomely printed book, in paper, of over one hundred pages, including an index, and constitutes a most welcome addition to the literature of this remarkable drug.

Honor to a Southern Physician.—Dr. Charles Le Roux, of Pass Christian, Miss., has been presented by the French Government with a beautiful gold medal of honor, in recognition of his services rendered to French residents during the yellow fever epidemic of 1878 in that section.

Jefferson Medical College.—Dr. Wm. S. Forbes, Demonstrator of Anatomy, has been appointed Professor of Anatomy in the place of Dr. Wm, H. Pancoast, resigned. The address to the Alumni was delivered by Dr. William H. Warder on the evening of April 1st. After the address, an oil portrait of himself was presented, on behalf of the graduating class, by one of its members, to Professor Pancoast. After the college commencement on the following day, the Faculty gave a banquet to the graduates in Natatorium Hall; when a temporary floor which had been placed over the swimming bath in one portion of the room gave way, precipitating about twenty-five, with a piano, to the bottom of the bath, a distance of twenty feet. Three persons were seriously injured, but none fatally.

Dr. S. G. Dabney, late of Charlottesville, Va., has been appointed Professor of Physiology and Lecturer on Diseases of the Eye and Ear in the Hospital College of Medicine, of Louisville, Ky.

Medical Department of the University of Maryland.—Prof. S. C. Chew has been transferred from the Chair of Materia Medica to that of Practice, left vacant by the death of Prof. Richard McSherry, and Prof. I. E. Atkinson from the Chair of Pathology to that of Materia Medica.

A Polyclinic at Atlanta.—A polyclinic has been organized at Atlanta, Ga., with six departments, to be presided over respectively by Drs. A. W. Calhoun, J. S. Todd, W. S. Elkin, G. H. Noble, A. J. Woodward and Henry Wile.

St. Louis Medical College.—Several important changes are announced in the Faculty of the St. Louis Medical College. Prof. L. Ch. Boisliniere and E. F. Smith, for many years respectively occupying the chairs of Obstetrics and Gynecology, and of Clinical Medicine, having resigned, and the following gentlemen have been elected to these positions: J. M. Scott, M.D., Prof. of Obstetrics; W. L. Barret, M.D., Prof. of Gynecology; Jno. Green, M.D., Prof. of Opthalmology; W. E. Fischel, M.D., Prof. of Clinical Medicine; Jno. P. Bryson, M.D., Prof. of Genito Urinary Surgery; B. J. Primm, M.D., Prof. of Descriptive Anatomy. Dr. Mudd's chair is now designated as that of Surgical Anatomy and Clinical Surgery.

PHARMACY LAW IN VIRGINIA.—The Legislature of Virginia passed on March 3d, 1886, " An Act to incorporate the Virginia Pharmaceutical Association, and to regulate the practice of Pharmacy, and to guard the sale of Poisons in the State of Virginia."

PRESENTATION OF A LOVING CUP TO THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—On Wednesday evening, April 14th, on the occasion of the ninety-ninth anniversary of the founding of the College, Mr. Horace Howard Furness, on behalf of two ladies, descendants of two of the founders of the College, presented to the College, in a happy speech, a massive silver loving cup. It was received, for the College, by the president, Dr. S. Weir Mitchell, who made an appropriate address.

PASTEUR ON RABIES IN THE WOLF.—Pasteur is reported as saying recently in reference to his wolf-bitten Russian patients : The duration of the incubation of hydrophobia after a bite from a mad wolf is often very short ; sometimes only two or three weeks. After the bite of a mad dog short periods of incubation are rare. However, I do not think the virus of a mad wolf differs from that of a mad dog, unless the wolf has received the virus from another wolf, and that one from another, and so on. In the case of hydrophobia thus transmitted from wolf to wolf, the bite of the last wolf would have a much greater degree of virulence than that of a dog. We don't know what happens in the forests of Russia. That is a matter for future study. It may be found that the inoculation of victims of mad wolves ought to begin five or six days after the bite. If that be so, and if the forests of Russia are found to contain mad wolves, I shall be the first to ask for the creation of one or more establishments in Russia like mine in Paris.

CHICAGO MEDICAL COLLEGE.—During the past session a well-equipped pathological laboratory has been erected, and placed under the direction of Dr. Nathan S. Davis, Jr.

TENNESSEE STATE MEDICAL SOCIETY.—At the annual meeting of the Tennessee State Medical Society, held at Memphis on April 6th and 7th, the following officers were elected for the ensuing year :

President.—Dr. W. T. Briggs, of Nashville.

Vice-Presidents.—Drs. J. W. Penn, of Humboldt, and J. B. W. Martin, of Nashville.

Secretary.—Dr. Ambrose Morrison, of Nashville.

Treasurer.—Dr. Richard Cheatham, of Nashville.

THE BUFFALO MEDICAL AND SURGICAL ASSOCIATION.—At the annual meeting, held April 6, the following-named gentlemen were elected officers : Dr. W. W. Potter, President; D. J. B. Coakley, Vice-President ; Dr. F. R. Campbell, Secretary ; Dr. F. L. Brecht, Treasurer ; and Dr. P. W. Van Peyma, Librarian.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA.—At a stated meeting of the Medical Association, District of Columbia, held on the 6th inst., the following were elected officers for the ensuing year : President, Dr. J. M. Toner ; First Vice-President, Dr. J. W. Bulkley ; Second Vice-President, Dr. Geo. Byrd Harrison ; Secretary, Dr. Lachlan Tyler ; Treasurer, Dr. S. S. Adams.

NEW YORK CITY LUNATIC ASYLUM.—Dr. T. M. Franklin, Medical Superintendent of the New York City Lunatic Asylum, Blackwell's Island, has tendered his resignation.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Dr. Henry J. Garrigues, Visiting Physician to the Maternity and German Hospitals, has been elected Professor of Obstetrics, and Dr. C. C. Rice, Instructor in Diseases of the Nose and Throat.

TRICHINOSIS IN TENNESSEE.—The Tennessee State Board of Health Bulletin, for the month ending March 31, 1886, states that the report of Dr. J. W. McCall, of Huntingdon, published in this issue, furnishes, so far as is known, the first authenticated case of trichinosis which has occurred in a resident of Tennessee, and that too from eating the flesh of a home-raised hog.

PROF. A. H. OHMANN-DUMESNIL has resigned the chair of Dermatology and Syphilology in the St. Louis College of Physicians and Surgeons, in order to give more time to his editorial work.

MARRIED.—Florence, youngest daughter of the late Dr. J. Marion Sims, was married, April 10, to Dr. John A. Wyeth, Professor of General and Genito-Urinary Surgery, and Secretary of the Faculty, in the New York Polyclinic.

Professor Wm. A. Hammond, of this city, was married May 1 to Miss Esther Chapin, of Providence, R. I.

AN AMERICAN DINNER TO PASTEUR—Paris, April 14.—Mr. McLane, the American Minister, presided at a banquet which was given this evening to M. Pasteur. In proposing the health of the distinguished guest, Mr. McLane referred to him as a benefactor of humanity, to whom America was extremely grateful. M. Pasteur made an appropriate response, and closed by proposing a toast to the Union and to the friendship existing between the United States and France. One hundred and twenty French, English, and American guests were present.

A MEDICAL VETERAN.—Dr. Wm. Adair, of Hart County, Kentucky, on March 16, the fiftieth anniversary of his graduation, rode seven miles over a rough road, on horseback, and having attended a lady in her confinement, returned home in time for his usual office hours. Dr. Adair received the degree of M.D. March 16, 1836, at the old Transylvania University, at Lexington, Ky., and has been in active practice in the county ever since. For many years he was Secretary of the Hart County Medico-Chirurgical Society, and he is still one of its most active and useful members; while, unlike many old country practitioners, he has always kept up his reading of current medical literature, in order to place himself abreast with the latest scientific thought and work of the day.

ARKANSAS STATE MEDICAL SOCIETY.—On account of the terrible cyclone which recently devastated Helena, the Society met (April 28) at Little Rock.

COLLEGE COMMENCEMENTS.—Among the recent medical commencements were the following:

College of Physicians and Surgeons of Chicago, February 23, 71 graduates.

The Southern Medical College, Atlanta, February 25, 34 graduates.

Medical Department of the University of Tennessee, Nashvillle, February 26, 57 graduates.

University of Nashville, and Vanderbilt University, February 25, 96 graduates.

Atlanta Medical College, March 1, 38 graduates.

University of Louisville, March 2, 81 graduates.

Baltimore Medical College, March 4, 16 graduates.

Medical College of South Carolina, March 4, 22 graduates.

Medical Department of the Arkansas Industrial University, March 5.

Columbus Medical College, March 5, 19 graduates.

Medical Department of the University of Maryland, March 17, 78 graduates, besides 27 dentists.

Chicago Medical College, March 23, 35 graduates.

District College of Medicine (the combination of the District Medical College and the Michigan College of Medicine), March 23, 47 graduates.

Medical College of Virginia, Richmond, March 30, 18 graduates.

Medical Department of the Tulane University of Louisiana, March 31, 63 graduates.

Jefferson Medical College, Philadelphia, April 2, 223 graduates.

Medical Department of Niagara University, April 12, 6 graduates.

Medical Department of the University of Pennsylvania, May 1, 118 graduates, besides 41 dentists.

The St. Louis College of Physicians and Surgeons has graduated a class of 17, the Missouri Medical College of St. Louis a class of 17, and the St. Louis Medical College a class of 18.

DEATH OF DR. J. B. FICKLEN, OF GEORGIA.—This occurred March 3, 1886, in the fifty-sixth year of his age, and was due to diabetes. Dr. Ficklen graduated in medicine at the University of Pennsylvania in 1853, and returned to Washington to practice. When the war came on, he promptly offered his services to the Confederacy, and was appointed surgeon to the 4th Georgia Hospital in Richmond, Va., in which capacity he served with great distinction until the close of the war. After the surrender he turned his face homeward and settled down to his life-work. His great ability as a physician soon procured for him a large and lucrative practice, and in the course of a few years he was recognized as the leading physician of Wilkes and the surrounding counties.—*Atlanta Medical and Surgical Journal.*

DR. J. J. CALDWELL, one of the oldest physicians in Atlanta, died March 12, of apoplexy. He was for a long time resident of Griffin, Ga., but removed to Atlanta about five years ago.

DR. C. C. F. GAY, a distinguished surgeon of Buffalo, and Professor Emeritus of Operative and Clinical Surgery in the Niagara Medical College, died last month. He was an honored Fellow of the New York State Medical Association.

DR. WILLIAM L. HARDY.—Dr. William L. Hardy, physician to the city prison of New York (Tombs), died April 24, of cerebro-spinal meningitis. Dr. Hardy was born in this city on May 18, 1849, and was educated at the New York College. He studied medicine at the Bellevue Medical College, and at his graduation was appointed Inspector in the Health Department. He was afterward surgeon to the old Park Hospital, and to the city schoolship Mercury. In 1875 he was placed in charge of the Insane Asylum on Ward's Island, and he remained there five years. He was recently appointed by Mayor Grace one of the Board of Civil Service Examiners.

EDITORIALS.

MORTALITY AND VITAL STATISTICS OF THE UNITED STATES.—The *Lancet*, in a recent issue, says very truly, that it is matter for international regret that in such essential departments of vital statistics as the registration of births and deaths the United States should be so far behind most other civilized countries, and that until some tolerably uniform system for such registration be adopted throughout the States, it is doubtful whether, either from a public health or a statistical point of view, the comparison of American and European mortality statistics can yield any useful result.

It is moved to make these statements by an examination of the eleventh volume of the Report upon the Census of the United States in 1880, constituting Part I. of a special report on the Mortality and Vital Statistics of the United States in 1880, by Dr. John S. Billings. The United States has no system of registration of vital statistics such as is relied upon by all other civilized nations, and in default of such a system attempts have been made at each of the last five national censuses to collect, through the agency of the enumerators, data with regard to the births and deaths that occurred during the year preceding the date of each census. Such attempts, the *Lancet* says, have been made in Ireland and in other countries prior to the establishment of civil registration, and the result of such attempts has invariably been to prove the impossibility of collecting complete or trustworthy data by such a method. Dr. Billings freely admits that the experience of the United States census furnishes no exception to this rule. It is acknowledged that the enumerators do not ascertain and record more than from 60 to 70 per cent. of the actual number of deaths. With a view to correct this important deficiency in the number of deaths reported by the enumerators, a register form was sent early in the census year (which ended on May 31st, 1880), with a stamped envelope for its return at the end of the year, to everyone in the United States who was reported by his or her postmaster to be a physician, or to be addressed as such. It was requested that the particulars of all deaths occurring during the year under observation within the knowledge of the medical practitioner might be entered in these registers before they were returned. The number of these registers sent out was 70,299, of which only 25,809, or 37 per cent., were returned. The registers' report returned to the census office contained records of 166,896 deaths, of which 61,020, or 36.6 per cent. were found not to have been reported by the enumerators. Dr. Billings assumes that after the addition of the deaths proved by the physicians' registers that came to hand to have been omitted, the returns of the enumerators were "still deficient as much as 30 per cent.," which is believed to be the maximum. The result of this estimate is stated to be to raise the average annual mortality for the whole country from 15.09, as shown by the uncorrected enumerators' returns, to 18.08 per 1000. It may be noted, however, that if the uncorrected rate (15.09) be raised by 30 per cent., the corrected rate would be 19.62. Dr. Billings on this point concludes that, "it seems safe to assume that the death-rate was not less than 17 nor more than 19 per 1000 of the living population, and I shall assume the mean of these—viz., 18 per 1000—as the mortality rate of the United States during the census year."

After a reference to the grounds upon which Dr. Billings concludes that the maximum deficiency of the corrected death returns is 30 per cent., the *Lancet* goes on to say: "Full consideration of the various elements of doubt that envelop all the bases of facts upon which Dr. Billings has had to deal, and upon which he has attempted to construct trustworthy mortality statistics, makes it exceedingly difficult to accept his final conclusion that 'it will be *seen* that the death-rate in the United States compares favorably with that of all other civilized countries.' It may readily be admitted that 'since poverty and overcrowding are the chief causes of excessive mortality, and in the United States there is a more general and equable distribution of the means of supporting life, including especially a food-supply of good quality, and more room than in European countries,' the death-rate might be expected to be lower than in most cases of the countries of the old world. We cannot, however, accept Dr. Billings' figures and deductions as affording satisfactory evidence that the death-rate in the United States in the census for 1879-80 did not exceed 180 per 1000, although they abundantly prove that any conclusions based upon the recorded deaths, except in a very small section of the States, including mainly a certain number of registration cities, are entirely untrustworthy."

While the United States, in general, has no regular system of vital statistics, considerable progress has been made by a number of the individual States in remedying this defect so far as their own population is concerned, and it is to be hoped that as time goes on, steps to secure a satisfactory registration will be taken by all of them.

Without referring at the present time to the work accomplished in this direction in other States, it is of interest to learn from the report of the late Secretary of the New York State Board of Health, Dr. Alfred L. Carroll, recently published in the Sixth Annual Report of the Board, that, although the registration of vital statistics in New York is yet far from complete, a gratifying increase in the number and character of the returns forwarded by local registrars is noticeable. Under the amended public health act of 1885, which became a law in June last, the duty of reporting births devolved upon the parents or custodians of the children born; that of securing the record of a marriage upon the groom; while the responsibility for obtaining and presenting certificates of death was placed, where it properly belongs, upon the undertaker or person having charge of the burial. The former acts failed to specify upon whom these duties should fall, and nearly all the local boards of health, in their discretionary power to supervise and regulate the registration within their respective jurisdictions, had relied on physicians exclusively for returns of nativity and mortality.

But apart from the doubtful legality of compelling medical practitioners to report family details for forensic purposes, says Dr. Carroll, it was evident, as was pointed out in the introduction to the fifth annual report of the Board, that "complete" records could not be obtained by this method. Among the poorer classes a very large percentage of the births occurs without the attendance of a physician, perhaps under the ministration of some irresponsible and ignorant midwife, often without extrinsic aid of any sort; and even where physicians have fully complied with the requirements of the local sanitary authorities, it is probable that at least forty per centum of the births have escaped registration. Despite the thorough organization and comprehensive powers of the New York City Health Department, the recorded birth rate in the metropolis for many years has fallen far short of the death roll, demonstrating the insufficiency of the existing system of obtaining returns, and in scattered rural populations the difficulty in this respect is greater. Some time must, of course, elapse before the public will have become familiar with the provisions of the new law, but although scarcely more than six months have passed since its enactment, already the proportionate number of birth certificates transmitted to the central bureau has much increased and is monthly increasing.

Still, as regards mortuary statistics, the Secretary says that, beyond the bare record of deaths from different diseases, it has been impossible to tabulate data of real statistical value. To reach conclusions of sanitary importance it is necessary to compare the mortality at different ages with the number of persons living at such ages; to balance the deaths under one year of age by the number of births during the year; to separate sexes, occupations, races, social conditions, density of population, and sundry other factors which have an essential bearing on the lessons to be drawn from the death roll. But to sift out even a few of these requirements of tabulation from the multitude of death certificates monthly received at the central bureau would occupy a much larger clerical force than that at present employed, which is not adequate to the actual needs of mere registration of current events; and to fulfill all the conditions would demand a more complete system of returning births than is likely to be achieved for some time to come, and an accurate and elaborate census enumeration. It has, therefore, been impracticable to do more than to show the percentage of deaths from the various zymotic diseases, and the ratio of deaths under five years to the total mortality.

ANOTHER GREAT VANDERBILT BENEFACTION—The four sons of the late Wm. H. Vanderbilt have recently given $250,000, or $62,500 each, for the erection and maintenance of a building to be devoted to clinical instruction, and to be known as the Vanderbilt Clinic. The only objection that can be raised to the purpose to which this splendid donation is to be devoted is, that the project contemplates the establishment of a great free dispensary in connection with the Clinic. It is claimed that there are already quite enough free dispensaries in the city for the wants of the poor, and that such a charity will only tend to increase pauperism; but it is probable that unless such a dispensary were opened, it would be impossible to obtain material for the clinical teaching. It is to be sincerely trusted, however, that the managers of the institution will see that such a supervision of those applying for gratuitous medical treatment is maintained, that all those who are able to pay for professional attendance will be rigidly excluded. Through the agency of the systematic work of the admirable Charity Organization Society, it is now possible to determine exactly who are appropriate subjects for medical charity, and the good offices of this society should certainly be invoked in the matter, or else the Clinic authorities should set on foot an independent plan for systematic investigation of the same character as that carried on by the latter.

The gifts of the Vanderbilt family to the College of Physicians and Surgeons now amount to one million of dollars, and as Mr. Depew remarked in his eloquent oration on the occasion of the laying of the corner-stone of the new college buildings, a private benefaction renders possible the construction and equipment of a medical college superior to any ever known in this country, and equal to the best in the world. "The College of Physicians and Surgeons," he said, "becomes one of the strongest and best appointed schools in the world through the medium of the splendid benefaction we this day commemorate.

Upon these grounds, donated by Wm. H. Vanderbilt, whose gift erects, furnishes, and endows a building equal to all the requirements of the present and the needs of the future, Mr. Wm. D. Sloane builds the Maternity Hospital, and the generosity of his wife endows all the beds, making them free; while the four sons create the Clinic, which will be a vast dispensary, giving without charge to the poor for all time medicines and the best professional attendance, as a memorial to their father, more grateful to him if living, and to his spirit now that he is dead, than stately shaft or gorgeous mausoleum. With this endowment, and the impulse and inspiration which will follow it, New York will become the centre of medical learning, education, and acquirement for the American continent."

MORE ABOUT FAITH CURES.—Dr. James Hendric Lloyd has published in the New York *Medical Record* a very interesting account of the work of a committee, of which he was chairman, appointed by the Society for Psychical Research in Philadelphia, to investigate faith cures; the object being intended to be entirely psychical, and not at all polemic. The investigation was pushed with vigor, and while it did not disclose the wealth of facts in matters psychical which had been hoped, it did bring to light a variety of interesting and even remarkable truths. A verbal report to the Society closed the committee's labors, and the chairman has felt free to record some of his observations.

Two series of questions were proposed, as follows:

A. (To Faith-curer): I. What diseases have you cured, especially *fevers?* (Typhoid, small-pox, scarlatina, measles, and graver forms of malaria?) *Nervous diseases?* (Paralysis, what form? Apoplexy, chorea, epilepsy?) *Tumors* (cancer, and ovarian?) *Wounds* and *fractures?*

II. *Method?* (By faith alone, or were surgical or therapeutic means used in any cases?)

III. Patients' names and addresses, which would not be printed if so requested.

B. (To patient): I. *History of case?* Cause, course, symptoms, duration and treatment, with results? Condition just preceding cure? (Had patient been improving, growing worse, or stationary?)

II. *The cure?* Circumstances which induced application? Condition of mind at first—belief or doubt? Length of time to effect cure?

III. *Recent history.* Thoroughness of cure? Interval since cure? Relapses—how many? Is improvement more marked than that obtained by medical treatment?

The above questions were used for those who lived at a distance. In all cases where practicable, a personal examination was requested; if such examination were not practicable, the aid of the family doctor was solicited. It soon became apparent, in the search for cases, Dr. Lloyd says, that the city of Philadelphia had not enjoyed the therapeutic benefits of faith in that superabundance which one might have supposed, and which seems to have been the fortune of more distant localities. Although the search was industrious, and even announced in the public press, and application made to the most distinguished practitioners of the cure, there were only negative results obtained.

It did not seem difficult to obtain the addresses of cases in Boston, New York, and the West, but most of the letters written to them remain unanswered. One of the few who replied was Captain R. Kelso Carter, quite a distinguished supporter of the doctrine, and who has been announced himself as cured of "fatal heart disease," wrote a letter containing the following extracts: "Doubtless some healed ones would innocently submit to a medical examination. I would not, believing it to be dishonoring to my great Physician. I give my testimony—and I say Jesus cured me. I do not propose to submit to tests, to endorse God's notes of promise by the signature of men."

Dr. Charles Cullis, of Boston, probably one of the most prominent practitioners of this newest school, said that he had cured all the diseases mentioned "except perhaps *small-pox*," which had never been presented to him.

Shortly after his letter was received, an article in the *Century* contained a very able criticism from the genuine orthodox standpoint, and taxed Dr. Cullis and his friends with lack of candor for not publishing lists, as our hospitals do, of the "dead" and "uncured," as well as "cured." Another letter was then addressed to him soliciting such a list, but the letter was never answered.

The Rev. A. B. Simpson, of this city, wrote: "I should as soon expose the sanctity of my home-life to the public eye as the sacred work of God in human bodies * * * to scientific criticism." "But he appears to forget," says Dr. Lloyd, "that the 'sanctity of his home' is a purely personal matter to himself, whereas the healing of human bodies is of very near interest to every individual who has one; and that the subject is open to scientific criticism, and will stand or fall by it *alone*." Disease of any kind bring a purely physical condition, it is, of course, only by strictly physical tests that its presence or absence can be determined. The reports written by the patients themselves proved to be always so inexact and loose-jointed, that it was quite impossible often to make out the semblance of a diagnosis. Their likeness, indeed, to the cases advertised by the patent medicine men was very striking.

The following case came directly under Dr. Lloyd's notice: An infant, aged a few months, had a very bad congenital vascular nævus of the upper lip, which was very disfiguring and caused the family much concern. Dr. Cullis came to Philadelphia and held meetings in a church edifice which was converted into a free dispensary for the treatment of all manners of disease by faith. Prayers were solicited for this child, and offered for it, but as every medical man would expect, the nævus got no better, but only worse. This was in every sense a crucial test. The failure could not have been due to a "lack of faith" (which is the favorite argument), because, as the infant was too young to bear this reproach, the faith of the friends would suffice, and even if that were lacking, there was the vicarious faith of Dr. Cullis. Afterwards he had the opportunity of seeing Professor Agnew excise this growth and effect a scientific cure.

The Rev. R. L. Stanton has written a pamphlet in which he parades a most startling array of cures, not only of functional disorders, but of cancers, fractures, and other severe ills. One of these is the case of a little son of Dr. Reed, a physician of Philadelphia, who fell and broke both the bones of his forearm. The account says that the patient insisted the following morning upon having the dressings removed, because Jesus had made it well; that the child was so confident and persistent that on the third day the surgeon, who was the boy's uncle, did remove the splints and exclaimed, "It is well, absolutely well;" and "hastened to the door for air, to keep from fainting." This case has been so widely circulated, and in such good faith, that it was very desirable to know more about it. It so happens that the patient is now grown to manhood, and is himself a graduate in medicine from the University of Pennsylvania. A letter was addressed to him, and in his reply he says:

"The child was a spoiled youngster who would have his own way, and when he had a *green stick* fracture of the forearm, after having it bandaged for several days, concluded he would much prefer going without a splint. * * * To please the spoiled child the splint was removed and the arm carefully adjusted in a sling. As a matter of course, the bone soon united, as is customary in children, and being only partially broken, of course all the sooner. This is the miracle! Some nurse, or crank, or religious enthusiast, ignorant of matters physiological and histological, evidently started the story, and unfortunately my name—for I am the party—is being circulated in circles of faith-curites and is given the sort of notoriety I do not crave."

In commenting on this case, Dr. Lloyd says: "The Rev. Mr. Stanton ought to make a dog-ear on this leaf for future reference, because this letter of Dr. Reed's spoils the most interesting story of supernatural healing of a fracture that has appeared since the day when Diomedes threw a great stone at Æneas and caused a compound fracture of the femur, which is supposed to have been cured by Venus, the divine mother of the injured hero. This case is reported by Homer, and has probably not been investigated."

The article concludes as follows: Miss Louisa M. Alcott writes of the *mind-cure* (which is a kindred branch with faith-cure), that although it failed in her case, she is convinced there is "a great truth" in it, but she does not say what the great truth is. As for her, "homœopathy has worked more miracles than the mind-cure." This will probably confirm some of us in the suspicion that homœopathy is another branch of psycho-therapeutics.

The conclusion of the whole matter brings us to one more point. The mystical language used by these people is often responsible for many of their errors. This language can often be neither parsed nor translated. Said one good woman to the writer, "You cannot understand these things because they are spiritual, and you do not believe;" as though the alleged healing of the cancer in the Rev. Mr. Mahan's wife was not materialistic enough to be looked after. A clergyman wrote that he hoped the "ethical nature of the disease" (whatever that is) would be explored. * * * Far be it from the writer to ignore the just claims of religious emotion upon the mind of man; but it is sometimes a comfort to reflect, with Epicurus of old, that those are not undevout who drug the gods of the many, but those who attribute to the gods the opinions of the many.

THE CASE OF GENERAL SHALER.—The President of the New York Board of Health, like Cæsar's wife, should be above suspicion. Such is unfortunately not the case with the present incumbent of that responsible position. He has been twice tried on a charge of bribery, and, though there was a failure to convict, the jury being unable to agree on either occasion, the evidence against him was such as to leave no moral doubt of his guilt. If it had not been, he certainly would have been able to establish his innocence before this; and, under the circumstances, the sooner that he retires from official life the better. The *New York Times* in commenting on the result of his second trial, says with much truth: General Shaler's reputation is irretrievably lost He still retains the position on the Armory Board which he is believed to have disgraced by corruption. He is Major-General of the First Division of the National Guard, and he is President of the Board of Health. He ought to give up those positions and retire to privacy and seclusion. It is a demoralizing spectacle for such a man to continue in places of public trust when he must know that he is universally regarded with distrust. His willingness thus to flaunt his disgrace in the public eye is a confirmation of the belief that his sense of honor was not sufficiently high to forbid his participation in corrupt jobbery.

IN MEMORIAM.—Dr. Joseph W. Thompson, of Paducah, Ky., born in Graves County, Ky., June 27, 1838, died at Citronelle, Ala., March 30, 1886.

Between these two dates lies the record of a good and useful life; and those who are familiar with it know that a bright and intelligent lad grew into an earnest student, an independent thinker, a true man. He graduated in medicine at the University of Pennsylvania in 1859, and from the first was ambitious to stand always in the front ranks of his profession.

Thoroughly conservative in all that was valuable in medicine, he was nevertheless quick to welcome an improvement, and among the first to adopt new methods and ideas. As a surgeon he was especially well known, so that he was recognized as the highest authority in his section upon all important surgical matters.

Sorrow broods heavily over the home which he made happy by his indulgent love; but grief must be lightened by the thought that he who suffered so long and so patiently is released at last, and that his manly endurance is no longer bitterly tried, he having fallen asleep and gone to the enjoyment of the rest which remaineth for the just.

THE JUNE NUMBER will contain the full official account, authorized by the Executive Committee of the Association, of the great memorial meeting, in honor of the late Professor Austin Flint, held by the New York County Medical Association, April 19, at the Carnegie Laboratory. Among the addresses, all of which will be published in complete form, are those of the President, Dr. C. A. Leale, Professors Lewis A. Sayre, Frank H. Hamilton, Isaac E. Taylor, E. G. Janeway, Joseph D. Bryant, Frederick R. Dennis, and J. Lewis Smith, of New York, Professor Wm. H. Welch, of the Johns Hopkins University, Baltimore, and Dr. T. R. Varick, Surgeon-General of the State of New Jersey. In addition, the report will contain the resolutions adopted at the meeting, the resolutions of the Erie County Medical Society and of the Association of Physicians, of Louisville, Ky., and letters of great interest from Prof. N. S. Davis, of Chicago, Dr. Joseph C. Hutchison, of Brooklyn, Dr. E. M. Moore, of Rochester, President of the New York State Medical Association, and Dr. E. D. Ferguson, of Troy, Secretary of the State Association.

The number will also contain a most valuable article from the pen of Prof. Wm. A. Hammond, on the curious affection known as Thomsen's disease, the characteristic phenomenon of which is a tonic spasm of the muscles, not painful, and produced in the moment of inception of voluntary movements. Those of our subscribers, or their friends, wishing extra copies of this issue, will confer a favor by sending their orders at as early a date as practicable, as the demand for it is likely to be very large.

CORRECTION.—In the "Proceedings of Societies" in the April number, Dr. H. M. Biggs should have been reported as reading his paper on rabies before the New York County Medical Association, instead of the New York County Medical Society, as the name was given, through a mistake of the printer. There is in reality no such society as the latter, the correct title of the county society being, The Medical Society of the County of New York.

GAILLARD'S MEDICAL JOURNAL.

VOL. XLII. NEW YORK, JUNE, 1886. No. 6.

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ORIGINAL ARTICLES

ARTICLE I.

ADDRESSES DELIVERED AT THE MEMORIAL MEETING OF THE NEW YORK COUNTY MEDICAL ASSOCIATION IN HONOR OF THE LATE AUSTIN FLINT, M. D., LL.D., HELD AT THE CARNEGIE LABORATORY, BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK, APRIL 19, 1886.

INTRODUCTORY ORATION BY THE PRESIDENT, CHARLES A. LEALE, M. D.

Gentlemen :

Professor Austin Flint, M.D., LL.D., since the last monthly meeting of the New York County Medical Association, has departed from our midst, and we are assembled together this evening to honor his memory in this hall of medical science, where he delivered his last lecture.

Our grief at the loss of a cheerful, noble companion cannot be expressed in words, or our sorrow relieved by tears, when we behold his vacant chair. Ever since our organization, Dr. Austin Flint has been our beloved and cherished friend and co-worker; always ready with his mind, voice, pen and presence, to contribute to our welfare. We have been instructed by his wisdom and made happy by his pleasing manners.

At the social gathering following our last annual meeting, as he was not able to be with us in person, he thoughtfully sent his "loving bowl," with an abundance of delicious nectar, accompanied by the most kind expressions and good wishes. The room was filled with our members, and after a few remarks on the significance of the time-honored bond of social union, and thanks to the giver, by your President, many expressions of good will and continued prosperity to our dear friend came from those who, for years, had learned from his teachings the manner best adapted to promote the welfare of the afflicted, looking to them for comfort. Now he has gone, but he can never be forgotten.

His indelible writings, found in the principal libraries of the world, from their truthful records of clinical facts will always be prominent in medical literature. From his prize essay to the American Medical Association, written many years ago, to the last edition of his great work on the practice of medicine, just completed at his death, he exhibited the traits of the diligent searcher for truth and recorder of facts, with the aim to impart all he knew for general instruction.

Personally, as well as professionally, I have intimately known Dr. Austin Flint for more than twenty-two years. In 1863 he was a most brilliant clinical teacher of the science and practice of medicine, and gave special instructions in the art of physical diagnosis. His acute ear and accurate knowledge of physical signs, and of pathology, made him one of the most instructive masters in medicine. His clinics were crowded with attentive listeners, and it was during these hours that he appeared to be in his happiest mood. His kind words and explanations to those in doubt, cautious admonitions to the over-buoyant, and great faith in the tenacity of life to maintain existence, are remembered by his pupils as towers of strength.

During many hundreds of consultations with Dr. Austin Flint at the bedside of the sick and injured, covering a continuous period of over a fifth of a century of the practice of medicine in New York City, he has always been the same courtly, dignified, and pleasant adviser, the diligent searcher for the correct diagnosis, the judicious therapeutist, and the hopeful prognostician. His visits were brief. He maintained proper confidence in the physician, and imparted trust to the relatives and friends. At the homes of the sick he was a cheerful, welcome visitor and physician, and painstaking and correct diagnostician.

Socially, Dr. Austin Flint was a most pleasing companion. On the return voyage across the Atlantic, from the London International Medical Congress in 1881, we were daily together.

During the hours of safety he was overflowing with mirthfulness and pleasing conversation. When apparent danger threatened, he was confident and brave, exhibiting the same hopeful disposition that those at home have noticed when he graced the friendly association of professional men, and so often became the centre of joyous conversation. His extensive knowledge of the classical literature of the English language and his acute memory of related incidents, with a remarkable aptness in quotation, enabled him to enliven the company.

In his home, Dr. Austin Flint was the considerate, indulgent, and kind husband and father. Mrs. Flint contributed much, by her talents and affection, to assist and cheer him. In his journeys to Europe she was with him, to comfort and console; and let us, in passing, drop a tear of sympathy for the faithful wife and companion of over fifty years, now left sorrowing. She it was who remained loyal to him in early life, when duty frequently called him to change his residence—while teaching in the medical colleges—from Buffalo in the North, to New Orleans in the South. She it was who always encouraged him; and, after many years, when they moved to their beautiful residence on Fifth Avenue, in which she took such delight in adorning and calling "home," her happiness was overflowing. They were truly united, and illustrated the beautiful American poem:

> "As unto the bow the cord is,
>   So unto the man is woman;
> Though she bends him, she obeys him,
>   Though she draws him, yet she follows,
> Useless each, without the other!"

Dr. Austin Flint was of a lofty stature, had a powerful and symmetrical body, a large brain, brilliant, clear, dark hazel eyes, regular features, a very cheerful expression, was quick in motion, had well preserved and harmoniously working organs. He was a systematic, diligent student, a steady professional worker, fond of proper recreation, punctual in his engagements, self-sacrificing, a wise counsellor to the rich, and a true friend to the worthy poor.

Dr. Austin Flint was an original thinker, as well as a reflective expounder; he was not intolerant of the opinions of others, but recognized the fact that more than one therapeutical course would lead to the same end and recovery, and did not urge a change of remedies when he saw those already employed doing good service.

Twenty years ago Dr. Austin Flint did much by his teachings and practice to demonstrate that most acute diseases were self-limited, ran a definite course, were not aborted by medication, and tended towards recovery, if the rules for hygiene, proper nutrition, and guidance were judiciously followed. Dr. Austin Flint was one of the first to utilize these facts, and to show the uselessness of popular, but false, doctrines when interfering with the efforts of nature.

Dr. Austin Flint quite recently read an excellent paper before our Association, filled with useful observations and suggestions. On the evening preceding his death he attended to his usual duties, and returned home from a pleasant meeting of the Faculty at eleven o'clock. He was met at the entrance of his residence by his faithful servant, and immediately retired to his sleeping-room; by midnight he was unconscious, and was soon surrounded by relatives, physicians, and friends; he remained unconscious until the following day—two o'clock P. M., Saturday, March 13, 1886—when, from the attack of cerebral apoplexy, life ended, and the mortal took on immortality. His frequently expressed wish to his friends had been granted, and while in the full glory of physical and mental vigor, before senility had in the slightest degree appeared, he was taken from our ranks, leaving many mourners for the noble, pure man, the benevolent physician, the faithful husband, the kind parent, and cherished friend.

Immediately after receiving a notice of the death of Dr. Austin Flint, your President called a special meeting of the Executive Committee, to take action in regard to doing our utmost to honor the memory of the one whom we so much loved in life; and within a few hours a printed appeal was sent to each member, inviting his presence at the funeral.

The Association had a large broken column, six feet high, of delicate, fragrant, and beautiful flowers, sent to his residence, and from thence taken to the church.

The attendance of the representative members of the medical profession at Christ Episcopal church, during the burial service, surpassed that of any similar event for many years. As Dr. Austin Flint had remained his entire life true to his profession, so in death, his numerous friends remained loyal to him.

Dr. Austin Flint was eminently an American physician.

Two hundred and forty-eight years ago his ancestor, Thomas Flint, came from Derbyshire, England, and settled in Concord, Mass., in 1638. His great grandfather, Edward Flint, physician, resided at Shrewsbury, Mass., and his grandfather, Austin Flint, also a physician, died at Leicester, Mass., in 1850, after having lived more than ninety years. In the Revolutionary war he served as a surgeon.

The father of Dr. Austin Flint was a distinguished surgeon at Northampton, and afterward at Springfield, Mass.

Dr. Austin Flint was born in Petersham, Mass., October 20, 1812. He attained the highest pinnacle of fame in America, and his son, who inherits his name, has long occupied a prominent position. We thus have presented to us an unbroken line of five generations of American physicians, a fact probably unprecented on this continent. Dr. Austin Flint, after three years of collegiate studies at Amherst and Cambridge, entered the medical department of Harvard College, and from that college received the degree of M.D. in 1833.

On becoming a physician, he practiced his profession in Boston and Northampton, where he soon became a leader of progressive medicine, and prepared himself for the future successful teacher. In 1836 he moved to Buffalo, New York, and by his publications soon became known to the general profession. In 1844 Dr. Austin Flint was elected professor of the institutes and practice of medicine in the Rush Medical College, at Chicago, which position he held for one year without discontinuing his residence at Buffalo. He started the Buffalo *Medical Journal* in 1846, and remained its editor for ten years.

In 1847, Dr. Austin Flint, with Dr. Frank H. Hamilton and Dr. James Platt White, founded the Buffalo Medical College, and for six years remained an original member of the Faculty, and the professor of the principles and practice of medicine and of clinical medicine.

In 1852 he accepted the professorship of theory and practice of medicine at the University of Louisville, ably filling the chair until 1856; when he returned to Buffalo as professor of pathology and clinical medicine.

Dr. Austin Flint became the professor of clinical medicine in the School of Medicine, and visiting physician to the Charity Hospital, of New Orleans in 1858, remaining there during the three successive winters.

In 1859 he established himself in New York city, and in 1861 became professor of pathology and practical medicine at the Long Island College Hospital, which position he resigned in 1868. In 1861 he was appointed one of the physicians to the Bellevue Hospital, and professor of the principles and practice of medicine in the Bellevue Hospital Medical College, and for twenty-five years, up to the time of his death, looked upon its great success with special pride.

In 1868 Dr. Austin Flint was chosen orator of the New York Academy of Medicine, was its Vice-President in 1872, and President in 1873. In 1884 Dr. Austin Flint was one of the original founders of the New York County Medical Association, and also, in the same year, of the New York State Medical Association; since which time he has always taken a lively interest in their meetings, and contributed much to the literature of their transactions.

Dr. Austin Flint was elected President of the American Medical Association in 1883, and his inaugural address received the highest praise. Quite recently he had been appointed to deliver the address in medicine at the next meeting of the British Medical Association, and had prepared his paper for that occasion.

In 1881 he was made an honorary Vice-President of the International Medical Congress, at London, and recently was chosen President of the next International Medical Congress, to be held at Washington, D. C., in 1887.

Dr. Austin Flint has truly left to the American profession "*Clarum et venerabile nomen.*"

RESOLUTIONS OFFERED BY JOHN SHRADY, M.D., VICE-PRESIDENT, *the Chairman of a Special Committee of the Executive Committee of the Association Appointed for the Purpose of Preparing the same*:

WHEREAS, It has pleased God, in the exercise of His Divine Will, to remove from the sphere of his usefulness our esteemed co-worker, Austin Flint, M.D., LL.D., revered abroad, but best loved at home; and

WHEREAS, It is but proper that we take to ourselves that consolation which comes from the rehearsal of his many virtues; Therefore, be it

Resolved, That as an Association to whom he gave his latest work, and ever his cherished counsel, we add our own to the many other testimonies of his worth;

Resolved, That we recognize in him an author of marvellous industry, who has made his impress on the medical thought of the age, modest and just, but still a master of deliberate statement, conscientious in the recognition of the labors of others, and despising not the humblest contributor to that science to which he devoted his life; a practitioner of his art without device, zealous for the dignity of his calling, suave, considerate and gentle; one who worthily gained the gratitude of his patients, and will ever live in their most blessed memories; a consultant who dispensed rich stores of knowledge, ever judging kindly, more careful of the rights of others than his own, cheery and abounding in charity for his brethern; a teacher, hand-in-hand with his pupils, analytical, painstaking, less eager for glory than exactness, ever approachable, and always ready with a reason for the faith that was in him; and a man in all the walks of life, blameless, "who hath borne his faculties so meek" and "hath been so clear in his great office," and who laboring to the last, hath fallen in sight of the promised land of his cherish hopes. And be it also

Resolved, That we tender to those of his own household and kinship our heartfelt sympathies, knowing well that to his son his life was a pæan of touching affection, and to his widow one long benediction.

JOHN SHRADY, M.D.
E. S. F. ARNOLD, M.D. } *Committee.*
J. W. S. GOULEY, M.D.

ADDRESS BY LEWIS A. SAYRE, M.D.

Mr. President and Members of the Association:

The summons which brings us here to-night is one of mingled sadness and pleasure. There must be sadness and grief at the sudden loss of one of our most distinguished members, who was America's greatest physician; and yet the sadness caused by this irreparable loss is tinged with deepest pride and consolation, in the recollection of the fact that our profession has produced so great a man, whose stainless life has left an example which must exercise a salutory influence on all the younger members of that profession.

There were many points in the character of Dr. Flint well worthy the imitation of us all.

His strict integrity and his unswerving fidelity and faithfulness in the discharge of his professional duties were the most marked characteristics in his life.

He was always most punctilious in keeping, to the very moment, all of his appointments with brother practitioners, so as not to rob them of any of their valuable time, and no man in the consulting-room was ever more faithful or conscientious in the discharge of all of his professional duties to the patient, and at the same time more cautious and considerate in never giving offence, or wounding the feelings of his professional brother, who had called in his services. There was such dignity in his manner, and such earnest and positive sincerity in his conversation, as at once to inspire confidence and command respect.

He was always a most indefatigable worker, ever engaged in the discharge of his professional duties, either ministering at the bedside of the sick, lecturing to students, or devoting himself to his scientific studies.

He never wasted a moment of his time. When not visiting his patients at the hospital, or engaged in professional consultation, he was in his library, pursuing his studies, in order to keep abreast with all the improvements in medical science, or else employed in recording the careful observations of his vast experience for the benefit of the profession at large.

Hence, his numerous writings, which have been translated into many foreign languages, have become the standard text-books of the civilized world.

There was one very remarkable trait in the character of Dr. Flint which is well worth the imitation of every one. Whatever he had to do, he did at once; never putting off until to-morrow what could be done to-day.

Whenever appointed to prepare a paper, or assigned to make an address at some distant period, he immediately commenced the work, as soon as the duty had been entrusted to him. Consequently, he always had it perfectly completed long before the time it was to be presented, and nothing, therefore, ever came from his pen in a hurried and unfinished manner.

I have been informed that among his papers has been found, since his death, the address he had been appointed to deliver before the British Medical Association at its next annual meeting, at Brighton, in August next.

This paper was perfect and complete, and ready for the press, although it was not expected to be used for some months to come. The completion of this paper so many months before it was expected to be used is an excellent illustration of the character and habits of the man.

I sincerely hope that the British Association may become cognizant of the fact, and request the same for publication in its transactions, so that the profession at large may be in possession of his latest writings.

Brothers, while we bow in humble reverence and submission to the Divine Power, which has so suddenly bereft us of our beloved companion, let us rejoice in the noble example he has left for our imitation.

ADDRESS OF WM. H. WELCH, M.D., BALTIMORE, MD.

Mr. President and Gentlemen:

We cannot pay a more fitting tribute to the memory of Dr. Flint than to call to mind on this occasion his nobility of character and his achievements, familiar as these are to all here assembled.

When anyone has attained the distinction which Dr. Flint had gained, we are led to seek for the sources of his strength. These, however, were so various that some would doubtless emphasize in this inquiry certain elements of strength, while others would find in different characteristics the basis of his success. While one would point to his admirable personal traits, another would direct attention to his excellence as a practitioner and consultant; while some would dwell upon his success as a teacher of medicine, others would call to mind his ability as a writer, and many would remind us of his valuable contributions to medical knowledge.

It is this manysidedness, this completeness of character and of achievement, that form the distinguishing feature of Dr. Flint's life and work.

We who knew personally Dr. Flint love to call to mind his nobility of character. We shall remember him as a man who combined with dignity, affability and gentleness of manner, with urbanity, firmness and the courage of his convictions, with liberality, a strict sense of personal and of professional duty. That he had the qualities of a leader of men, his career demonstrated. To a well-trained mind and a sound body were added indomitable energy and an unusual capacity for work.

That Dr. Flint should have attained the highest eminence as a practitioner and consultant does not occasion surprise when we consider that he added to this happy combination of personal qualities a wide knowledge of medicine and a broad experience.

This knowledge was of that most serviceable kind which came from a familiarity with medical literature added to attentive observation at the bedside.

Dr. Flint had by nature and by acquirement the best qualities of a good physician. His medical judgements were deliberate and well considered. Sympathetic and cheerful in disposition, he won the confidence and attachment of his patients; skillful in the detection of disease and judicious in its treatment, he gained the respect and admiration of his brother practitioners. Far from being a nihilist in therapeutics, he laid especial emphasis upon the value of hygienic treatment, and was alive to the sources of error in therapeutics. I do not know a more graphic description and just appreciation of these errors than is to be found in the introduction to his work on clinical medicine, where he classifies and discusses them as "errors of ignorance," "errors of *a priori* reasoning," "errors of fallacious experience," "errors of authority," "errors of credulity," and "errors of skepticism."

As a consultant, the opinion of no one carried more weight, and, withal, he was always most considerate in his relations to the attending physicians.

We all know what great importance be attached to all matters relating to the professional conduct of physicians. His earliest printed address, one delivered in 1844, relates to this subject. All that he strove for in this direction was in conformity with his sincere convictions of what was right and was most conducive to the advancement and welfare of the medical profession in this country.

As an attending physician in hospitals Dr. Flint utilized his large opportunities to the fullest extent for all the legitimate purposes of clinical study and experience, while he was at the same time imbued with a lofty sense of his obligations to the class of patients which there came under his charge. He remembered in practice what he so well expressed when he said, "These patients" (that is, those in charitable institutions) "have claims of poverty added to those arising from their diseases. Brutality is less reprehensible when manifested toward those whose influence is valuable, from whom fees are expected, and who can terminate at any moment professional relations with their medical advisers."

As a man and as a physician Dr. Fllnt would have obtained pre-eminence in any community. His influence, however, extended far beyond the limits of any community, and, indeed, far beyond the limits of this country.

It was as a medical teacher and as an author that Dr. Flint exerted the widest influence and wrought the most good. There is no doubt that, by his oral teaching and by his writings, Dr. Flint reached a larger number of students and of physicians than has done any writer or teacher of medicine which this country has produced. Who can estimate the good which he accomplished through those more than forty years of medical teaching?

Dr. Flint's gifts as a teacher of medicine are known to you all. His discourse was forcible, clear, direct, and orderly; his style was conspicuous for grace and correctness; he commanded the attention of his hearers by his earnestness and by the manifest solidity of his teachings. He never became trivial. He kept in view that the great aim of medical teaching is the diagnosis and the treatment of disease, but he did not lose sight of the fact that to attain this aim a knowledge of all branches of general and special pathology is requisite.

An important and valuable feature in his method of teaching was to require students to make an independent, thorough, and systematic study of cases of disease, and to furnish full clinical reports of these cases. This was done in order to teach a proper method of clinical examination, to inculcate the habit of keeping clinical records, and to improve the powers of observation; for, as he has said, "The ability to observe correctly is not a natural gift, nor does it accompany, as a matter of course, the acquisition of knowledge from reading or didactic lectures. It is an art to be acquired." Dr. Flint's teaching was eminently broad, and, in the best sense, conservative. That it has worked for the formation of intelligent and competent physicians, filled with a desire to uphold the dignity of their profession, cannot be questioned. Dr. Flint will be held in ever grateful remembrance by his many pupils.

Dr. Flint's gifts as a teacher and his success as a physician will become for another generation a tradition; his writings will remain an enduring legacy to posterity.

Philosophic treatment of the subject, precision and perspicuity of language, candor of statement, and charm of style are distinguishing characteristics of Dr. Flint's writings, and have contributed to place some of them among the classical medical literature of this country. There was an absence of dogmatism in his statements, perhaps not always so acceptable to the student as to the practitioner of medicine.

Dr. Flint wrote upon subjects in all departments of internal medicine. In addition to his monumental work upon the "Theory and Practice of Medicine," he published a large number of valuable monographs. Among those published in separate form may be mentioned his works on continued fever, dysentery, diseases of the respiratory organs, diseases of the heart, phthisis, physical diagnosis, clinical medicine, and essays on conservative medicine. To this list, which is not intended to be exhaustive, are to be added a vast number of separate articles in journals, and occasional addresses. Here is not the time or the occasion to attempt a critical analysis of these works, or to give even a summary of the many contributions to medical knowledge which they contain. It is to be hoped that such an analysis will be made. A few salient points, however, may be appropriately mentioned on the present occasion.

Instructed by the distinguished clinical teachers of Harvard University, James Jackson, John Ware, and Jacob Bigelow, to whom he dedicated his book on "Clinical Medicine," Dr. Flint was a profound admirer of the great French clinician, Louis. He early adopted, and with fruitful result, the method of analytical study of a series of clinical cases. This is not the sole, but it is a valuable, method of clinical study, and Dr. Flint was a leading representative of this method of investigation.

His researches upon continued fever were made at a time when the discrimination between typhoid fever and typhus fever was not universally accepted. He contributed much to the solution of this problem. An interesting illustration of the freedom from bias and the objectivity of his clinical records is the fact that among his recorded cases were several that did not correspond to the type of either typhoid fever or typhus fever. These were cases of relapsing fever, a form of disease which was not generally recognized in this country at that time. So truthful, full and accurate were his records, that when, soon after his first publication, his attention was directed to the subject of relapsing fever, these latter cases could be readily separated, and were found to correspond in nearly every particular to the new type of fever.

Perhaps the most valuable contributions of Dr. Flint to medical knowledge are those relating to percussion and auscultation, and in general to diseases of the respiratory organs and of the heart. Certain points of distinction, now generally accepted, pertaining to the pitch and quality of the sounds of percussion and of auscultation, originated in his observations. He was the first to use the terms, and to describe clearly, vesiculo-tympanitic resonance and broncho-vesicular respiration. He was the first to point out the value of the sounds produced by the whispered voice. His explanations and his nomenclature of physical signs were simple and opposed to over-refinements. He did more by his writings and his teaching than any one else in this country to render popular the methods of exploration by physical signs.

His studies of diseases of the heart and of the lungs are full of valuable details which cannot be entered into at this time. He was throughout his career a consistent upholder of the doctrine of the unity of phthisis, and lived to see a return to the general acceptance of this doctrine.

He contributed much to our knowledge of the natural history of disease. He placed upon a firm foundation the doctrine of the self-limitation of many diseases, a point of view which, potent as it is at present, was not so at the time at which he made his researches.

Dr. Flint was not a narrow adherent of the method of investigation by analysis of clinical cases. He was capable of wide generalizations and of logical inferences, where this method failed. A remarkable instance of this is his prediction, over a quarter of a century ago, that a certain number of cases of profound and inexplicable anæmia would be found to depend upon alterations in the gastric glands, a prediction which recent observations have confirmed.

His logical acumen is also manifest in the argument by which he advocated the causation of disease by parasitic organisms, and more especially in his clear appreciation of the rôle played by predisposition in the etiology of this class of diseases.

It would, however, be doing scant justice to Dr. Flint to enumerate only the particulars in which he enlarged the boundaries of medical knowledge. His writings were characterized by a clearness of conception, an elevation of tone, and a breadth of view which made them popular wherever the English language is spoken. It may be truly said that the medical profession of England, no less than that of his native country, delighted to honor Dr. Flint.

Dr. Flint kept pace to the last with clinical and pathological research. He retained until the end the freshness and vigor of his mind. His ideas never became fossilized. He was always open to the reception of new views, when based on facts, and did not hesitate to throw overboard old ideas, no matter how long cherished, when convinced of their error. His acquirement of knowledge and his active usefulness in this world ceased only with his death —death in a manner which all may envy.

But I should not say his usefulness ceased. His virtues will linger in our memory; his career will be a pattern and an incentive; his work will endure as a monument of which our country may well be proud.

ADDRESS OF EDWARD G. JANEWAY, M.D.

Mr. President and Gentlemen:

I must confess that after the resolutions which have been read, and the remarks which have been made by your President and others, there is but little left that could be said, except to draw out some special points in the character of

Professor Flint, or to add one's personal testimony to his worth. Any one who has read the works of Professor Flint, his works on the Practice of Medicine, his works on Diseases of the Heart and Lungs, his works on Conservative Medicine, and the papers contributed to societies and journals, as they have appeared from time to time in this and other cities, must be convinced that here was a man so clear in his arguments, so true in his conclusions, so pertinent in his observations, that none of us in this age can hope to equal him. We can respect his memory because of those characteristics which endeared him to us. I can think of no one whom I have met who was more studious of the manner in which he treated a fellow-member of the profession—no matter who that fellow-member might be. There was no snubbing method, which is at times adopted, and there was that present which is sometimes wanting, and which made one wish that others might have taken a lesson from him. There was always that careful consideration of what he might say and what influence it might have in the judgment which bystanders might form of the given individual. He recognized that we were all liable to make mistakes, and, reasoning from this, he was careful of his criticisms of others in the sick room. It was this, together with his buoyant disposition, with his hopeful aspect, and an absence of that funereal method and manner which some have, which made him so favored as a consultant, and which made his visit to the sick room not a thing of gloom, but a ray of sunshine. If a patient was wavering between life and death, his buoyant manner was of that kind that it favored a tendency toward recovery, and threw the balance that there might be between life and death on the side of life, and not on the side of death. He gave hope to the poor sick patient. In his method with students, I know of no one who was more enthusiastic in his study of disease, and I think one of his greatest merits was the enthusiasm with which he pursued an object, which was as great in the last year of his life as it had been twenty-five years before. I shall always recollect the first occasion when I met him in Bellevue Hospital; it was about a matter in which he was particularly interested, and when he pointed out to me for the first time a murmur as presystolic mitral, which others had considered regurgitant.

I watched the case for three years, and then told him afterwards that the autopsy had demonstrated mitral stenosis, and that the water test had failed to show the least leakage of the mitral valves, and his enthusiasm when I told him this was no greater than that which he displayed over cases which he studied in the last years of his life It was this which kept him abreast of the age. It was this, with his clear views of disease, and the different heads under which he would consider it, which made him so eminent a teacher. In one thing some thought there might be something lacking, and I admire him the more for it. It was this:—he was never absolutely dogmatic about views not definitely established. He never said "This must be so," but that it remained for the future to decide. That was a fair presentation to the student's mind of the aspect of the case, and the student would often have preferred an absolute statement, so that he might not have to think whether this or that were so or not. He did not want his students to fall into that Sleepy Hollow of accepting the ideas of others, but desired to have them feel that neither he nor they as yet knew the whole of the subject which he was presenting to them ; thus encouraging study and investigation.

But it was not only his manner in the sick room, his manner in the consultation room, his method with students, which made him dear to us ; he also possessed a personal charm. Some one has already alluded to his method in the hospital, and his consideration to the poor hospital patients. I never saw him rude or ungentlemanly, or heard him say a harsh thing to an hospital patient ; he invariably treated them in the most courteous and gentle manner, being evidently sorry for their sickness. I know of no greater test than to stand in the dual relation of teacher and physician. The tendency to use the patient for class demonstration, at the expense of his health, is sometimes noticeable, and has to be carefully guarded against; and he was extremely careful about this matter.

But it was not only in these respects that he was so praiseworthy. His studiousness has been referred to, and how thouroughly he kept abreast with the age, as an illustration. When the question of bacteria came up, he was already prepared to receive it. His idea was that these things must be so ; he had already reasoned out that there must be such things, and all he wanted was the proof that they existed. In this he had outstripped many others younger than himself, from the fact that he had foreseen and foreknown that there must be such things, and that they would be proved to be the originators and causers of disease.

I could go on for an indefinite time speaking of his great works, of his discoveries, of his genius, of his observing power ; but enough has been said, and I shall conclude by expressing the conviction that we have lost the greatest physician of America in the death of Professor Flint.

REMINISCENCES OF PROFESSOR FLINT, BY J. LEWIS SMITH, M.D.

Mr. President and Gentlemen :

In 1836 Prof. Flint, in his twenty-fifth year, and three years a graduate in medicine, commenced the practice of his profession in Buffalo without acquaintances and with no reputation. In a young and bustling city, with few facilities for study and improvement in medicine, he possessed the qualities which enabled him to create the opportunities which he needed, and to make, in time, the city of his residence one of the medical centres. Buffalo at that time, without a medical organization worthy of the name, with physicians intent on acquiring and retaining a practice, having no regard for the higher demands of the profession, did indeed seem an uncongenial and unsuitable place for Prof. Flint, whose highest ambition was to improve in medical knowledge, and whose life-long endeavor was to make discoveries in the nature and treatment of diseases which would benefit the profession and the world.

Among the first diseases investigated by Prof. Flint after his settlement in Buffalo were those due to marsh miasm, and it was not long before he had made a sufficient number of observations to enable him to publish some novel but correct views in reference to their treatment. In 1841, forty-five years ago, the *American Journal of the Medical Sciences* published from his pen a statistical paper designed to show that intermittent fever, which he had treated among the troops stationed at Buffalo, required no preparatory treatment by mercurials or otherwise, before the use of quinine, and that quinine would control this disease more certainly and with safety, if given in the intervals of the paroxysms, in as large doses as ten or fifteen grains. Both these opinions, then new to the profession and contrary to the usual practice, attracted attention, since they were supported by statistics, and, as we all know, they are now accepted as true, and the present mode of treating this disease is the same as he recommended. In the same year he published a paper on dyspepsia as related to the state of the mind. From this time, during his entire life, he was a frequent contributor to the medical journals. Among his early papers that to which, I think, he attached the most importance, bore this title: "The Pathological Relations of the Medulla Spinalis." It was published in the April number of the *American Journal of the Medical Sciences* in 1844. This paper was also statistical, the views expressed in it being derived from an analysis of fifty-eight cases. The opinions contained in this article, as well as the instruction upon the same subject, which in former years he never failed to give to each class of students, have been of great value to the profession. Patients in a depressed state of system, and especially the anæmie, frequently have pain and tenderness at some point upon the lateral or anterior aspect of the trunk, and pressure along that part of the spine where the nerves originate which supply the affected part increases the pain, and is therefore a safe and certain means of diagnosis. When pressure upon the spine intensifies the pain, the latter is neuralgic, and not inflammatory; and yet the mistake is often made of diagnosticating an inflammation, and treating the patient accordingly, when the simple test mentioned above would have corrected the diagnosis. Prof. Flint recently stated to the writer that many years after the appearance of his paper in the *American Journal of the Medical Sciences* he was still more deeply impressed with the importance of the subject upon which he wrote, when, in accompanying the most distinguished clinical teacher in Europe through the wards of a Parisian hospital, he was able to correct, by the simple test with which he was familiar, the diagnostic error of the professor, who had stated that one of the patients whom they were examining had "peritonite."

My acquaintance with Prof. Flint commenced in 1851, when a medical student in the Buffalo Medical School. The *Buffalo Medical Journal*, established and conducted by him, was then in its fifth year. From the ability apparent in its editorials and original articles, many of them from his pen, it was widely taken in central and western New York, in the adjoining States and in Canada, and it, no doubt, aided very much in drawing students to the Buffalo Medical

College, then in its fourth year, and in which he held the professorship of Theory and Practice. At this time he read his lectures, and they were listened to with interest, and always by the entire class. It was not, however, till the following year, 1852, when, as an advanced student, I was appointed one of the house staff of the Hospital of the Sisters of Charity, that I became more fully acquainted with the subject of this sketch. No one more highly appreciated hospital advantages, as affording the opportunity for medical improvement, than he at this time, and, indeed, through his whole life. He had previously made use to the best advantage of the clinical opportunities which the old almshouse afforded, and now he had the privilege of studying diseases among a better class of patients, and with better surroundings. During my stay in the hospital every case in the service of Prof. Flint that possessed any interest was recorded in his note-book, and his thorough examination of patients, in order that the notes might be complete, necessitated a prolonged stay on his part at each visit in the hospital. The late Prof. Bennett, of Edinburgh, said that " a large metropolitan practice is the bane of the profession," since it prevents the proper examination of cases and the investigation of subjects which are of interest to the profession. Prof. Flint appeared to have the same belief, for he seemed annoyed and disappointed when professional engagements in the city prevented his daily visit to the hospital, or compelled a shortening of his stay there. It was apparently his endeavor that each day should add something to his stock of medical knowledge, and to a better understanding of the diseases which he met in the hospital.

It may not be improper to state that at this time some of the more prominent physicians of Buffalo, who had not participated in the founding of the college, were not in sympathy with it. This hostile element in the profession was represented by its ablest men in the board of visiting physicians of the hospital. The college, of course, sustained little injury, for it had an able faculty, consisting of such men as John C. Dalton, Frank H. Hamilton, George Hadley and James P. White; but the consciousness of living and working in an unfriendly atmosphere would have been very dispiriting to one less occupied in medical studies than Prof. Flint. The ill-feeling manifested toward the college and those connected with it was apparently ignored by him.

During my stay in the hospital, among the subjects which occupied the attention of Prof. Flint was what he designated " Variations of Pitch in Percussion and Respiratory Sounds," and his pocket note-book, in which he recorded his observations, was his constant companion. He contemplated sending an essay relating to the subject to the committee on prizes of the American Medical Association at its next session, and the interest which he manifested in obtaining the material for the paper seemed to increase from day to day, and was noticed by all who followed him through the wards, and who were often asked to verify his observations. No one who saw the interest which he manifested in the subject, and his careful examination of cases, was surprised when the announcement came from a distant city, and appeared in the daily papers, that the annual prize of the United States Medical Association had been awarded to Austin Flint, of Buffalo.

Another subject which engaged his attention was the differentiation of typhus and typhoid fevers. A considerable number of Irish immigrants were admitted into the hospital having a malignant form of typhus fever which they had contracted on shipboard, and when they reached Buffalo on their westward journey they were too sick to go further. I have never met in this city, in a practice of thirty years, so severe and fatal a form of this disease, in which most of the patients presented a mottling of the surface like that of measles. Although Sisters and nurses were stricken with it, some of them dying, each case was thoroughly examined, and the symptoms, and in fatal cases the lesions, were recorded. In due time a statistical paper containing the results of these examinations appeared from the pen of Prof. Flint.

To me it was evident that the example of a life so devoted to the study of diseases had a very salutary effect upon the students in the college, many of whom, having no previous knowledge of medicine except what they had learnt from the country practitioner and his obsolete books, and having chosen the profession of medicine simply as a means of livelihood, as one would learn a trade, appreciated, for the first time, the dignity and importance of the calling upon which they had entered, and saw that it merited the consecration of the entire life to its study and practice.

The life of Professor Flint, during the thirty years which have elapsed since the period of which I have been writing, is known to the profession. That he became the most prominent physician in America, and was honored throughout Great Britain as no other American physician has been, was due to his lifelong and uninterrupted study of diseases. Nothing that arose in politics, or church, or society, diverted him from it. His investigation of any disease or subject in medicine which engaged his attention was thorough, and while he treated with proper consideration the views of others, and listened to suggestions from any source, even from students, the information upon which he most relied he obtained at the bedside, and he did not express a positive opinion until he had made so many observations that he was certain of its correctness. Therefore no pupil of Hippocrates had greater faith in the teachings of the great master than those who were brought into intimate relation with Professor Flint had in his. Whenever he made a positive statement in regard to any medical subject, those acquainted with him knew that it was true, since it was based on a thorough investigation. In matters of doubt he always gave prominence to facts which conflicted with the theories which he believed to be true.

The success of Professor Flint in his profession seems to me to have been largely due to his practice of taking and preserving notes of cases at the bedside, which he began to do soon after he commenced the practice of medicine, and continued to do for many years, and I think, more or less till the close of his life. By recording the history and symptoms of a case, he made a more thorough examination of the patient, and in time he obtained an amount of statistics which were of the utmost value to him in his writings. Very few discoveries which threw light on the nature of diseases, or were likely to be beneficial in their treatment, escaped his notice. Only a few days before his death he questioned the writer in reference to intubation of the larnyx in the treatment of croup, so successfully performed by Dr. O'Dwyer in the New York Foundling Asylum, and at an age when most physicians think of retiring from the active duties of life he continued to devote half an hour each day to the study of German, in order that he might read German medical literature with more facility.

The Sydenham of the nineteenth century is taken from us, but his great work, his Treatise on the Principles and Practice of Medicine, the revision of which was his last professional labor, remains with us. No book has had a more salutary effect on the medical profession in America than this, for while it is excessively read by physicians in the cities, as well as in country towns, it contains the most recent opinions which have been established by clinical observations and experiments, while the treatment which it recommends is in a high degree conservative, and is that which is accepted by the most skillful and experienced practitioners. The writings of the great teachers in our profession have sometimes, as we know, done harm, more perhaps than benefit, like those of Broussais, and even in the writings of so recent and practical a physician as Trousseau, there are passages which we now wish had never been penned; but in the treatise of Professor Flint, so painstaking and thorough was he in the investigation of any subject on which he wrote, that, in my opinion, very few sentences can be found in the 1,100 pages that do not possess enduring worth. I recently heard him say of the "System of Surgery" written by his intimate friend, the late Professor Gross, that even if its modes of treatment should become obsolete, it would always be valuable, as showing the status of surgery in the nineteenth century. A similar remark might be made of Flint's treatise, that it will always possess value as showing the state of medicine in the last half of the nineteenth century, as that of Sir Thomas Watson does in the first half. But this is too low an estimate of so valuable a book. No one can read Flint's treatise without recognizing in it an enduring basis, so that with the additions made to it, from time to time, of discoveries as they occur in medicine, it will probably continue to be one of the text-books consulted for information and guidance long after the present generation have passed away.

ADDRESS OF THEODORE R. VARICK, M.D., JERSEY CITY, N. J.

Mr. President and Gentlemen:

Assembled as we are on this sad occasion to commemorate the death of our late friend and associate, Doctor Austin Flint, I am reminded of the following sentence from the Talmud: "The deeper the sorrow, the less tongue hath it."

No word painting can do justice to his purity of life, and no eulogy can add one ray to his brilliant record.

It is a privilege to be here to-night to pay homage to the memory of a great and good man, and to join with you in condolence in your great affliction.

The vacant chair calls up many reminiscences of professional and social life; which adds pathos to the fact that ties of many years' duration are forever sundered.

We miss his genial smile, we miss his friendly grasp, and we miss his cordial salutation.

His immediate associates mourn the loss of a firm and trusty friend, and the medical profession at large, whether in council or in the arena of science, recognize the loss of one whose ability and experience as a leader cannot easily be replaced.

A strong individuality characterized his whole career, and the influence of his example will serve as a beacon light for future generations.

Although firm in his opinions, he was free from dogmatism, always ready and happy to listen to argument when a difference of opinion may have arisen.

Conservatism as a practitioner was a marked characteristic; keeping fully abreast of the advances in pathology, therapeutics, etc., each innovation was carefully scanned and thoroughly sifted before receiving his endorsement.

His literary productions are too well known to call for any extensive remarks from me.

A prolific writer, he never wrote except for a purpose, and he had something of value to impart. His works, as graneries, teeming with the products of a fertile brain, a logical mind, a mature judgment and the utilization of a vast clinical experience, are a source from which the student may seek instruction, and to which the busy practitioner in moments of doubt may appeal for guidance.

As an evidence of the high appreciation in which as a writer he is held abroad, and which has been referred to on a previous occasion, he is alluded to in a recent number of the *London Lancet* as "the Watson of the United States." Whoever is familiar with the writings of Sir Thomas Watson will appreciate the magnitude of the compliment.

It was at the bedside as a consultant that his personal magnetism was most thoroughly observed; as on one occasion a patient fearfully ill remarked, "Doctor, your coming is as a sunbeam; it always inspires hope and imparts confidence."

Whether in victory or defeat, the same calm, unerring judgment was manifest, the same consideration for his associates was there. Never pluming himself on his superior acumen, and never betraying the errors of those less gifted, it was this magnanimity of character, this innate courtesy, that endeared him to all with whom he was brought in contact.

Twenty-three years ago, at the bedside of a dying patient, I first met him.

The firiendship which had its birth on that occasion became more firmly cecemented by the lapse of time and by frequent professional and social intercourse.

I recollect meeting him on one occasion in 1876, at the Centennial Exhibition in Philadelphia, when, in the course of conversation, he expressed his belief that when he should be called to yield up his life it would be by a sudden stroke.

How truly has his prognosis been verified. Stricken down with scarcely a moment's warning, he died with his harness on and his face to the foe.

Verily, a mighty oak has fallen, a great physician is dead.

Well may we exclaim with the poet,

"But O for the touch of a vanished hand,
And the sound of a voice that is still."

Although dead, he speaketh. He speaks to us through a record of spotless purity. He speaks through a life of tireless industry. He speaks to us of a fealty to the profession of his choice more firmly welded by the lapse of time, and of an unflinching courage when its integrity may have been threatened or its honor assailed; and, finally, he speaks to the whole medical profession in the interests of peace, that discord may cease, that petty jealousies may be wiped out, that, meeting on a common level, all may be gathered in one common fold, presenting to the world the spectacle of a united family, having one faith and worshiping at one common altar.

ADDRESS OF JOSEPH D. BRYANT, M.D.

Mr. President and Gentlemen:

I came here to-night much more desirous of listening to the remarks to be made by others than of taking any part in the proceedings myself.

I had hoped that all of the time would be occupied by those who had known the deceased longer than I, whose lives and labors had been contemporaneous with his, and who, perchance, had shared with him in the doubts and fears of early life, rejoiced with him for the triumph of their chosen profession, and who, perhaps, may be now, as he was, calmly, yea, even majestically contemplating the approach of that final scene which proclaims to the living that another one is fallen, and unfolds to the dead the knowledge of the rewards in store for the faithful.

I cannot speak of the late Doctor Flint in that contemporary sense, for it has been my lot, along with the great mass of the profession, to gaze from afar off, and, while admiring his virtues, to most earnestly hope that the power of his example might make its influence felt on all around him.

My personal observations of the deceased date back to the time of my entrance as a student to the medical college with which he was connected at the time of his death. I now recall to mind with vivid distinctness some of the impressions I then had of his personal characteristics: In his manner he was gentle, kind and indulgent; yet his earnestness of purpose and his loyalty to principle were as apparent then to the unsophisticated student as they have been since to all of us, in emergencies calling for their manifestation. His to-the-minute punctuality; his unaffected and chaste utterances; the absence of ambiguity and circumlocution; his invariably temperate and kind allusions to the acts of his professional brethren, all these virtues, Mr. President, for indeed they are such, were distinctly characteristic of him then, and, by the influence of their presence, admonished every graduate of the Bellevue Hospital Medical College since that time, at least, to be kind, earnest, consistent, punctual, virtuous and temperate in all things, and never to forget to not speak at all if one must speak unkindly.

Eighteen years ago these were impressions only, but when somewhat later in life he came to my aid as a consultant, these impressions ripened to settled convictions; and, later still, while associated with him in college councils, the ripening convictions of the past became established facts of the present.

In his intercourse with his college associates he was ever the model gentleman, conciliatory, unostentatious, unexacting; still always convincing, rather by his gentle, earnest manner, and by that unutterable logic which always surrounds the moral convictions of an honest man, than by the weight of the power he possessed.

Had he been a soldier, his would have been a rare combination of that gentleness and courage which is "mild in manner, fair in favor, sweet in temper, fierce in fight." The profession at large has lost one of its brightest and best ornaments, but the loss falls more heavily upon its younger members, who are bereft not only of a wise and honest counsellor, but also of the example of a model man, in whose footprints it was ever safe and honorable to tread. Let us, therefore, while we replenish our faith in human constancy by recalling and admiring his moral goodnesses, not forget that the most sincere and perfect eulogium that can be pronounced on any great and good man is the emulation of those virtues that gave to him his greatness.

ADDRESS OF FRANK H. HAMILTON, M. D., LL. D.

Mr. President and Gentlemen:

I wish to say a few words in reference to Dr. Flint, not as his biographer, but only to unite with you in this proper tribute to his memory.

It was my privilege to have enjoyed the personal acquaintance of Dr. Flint for more than forty years, during most of which time we were associated in teaching, in hospital, and, as residents of the same town, in private practice, and I am not aware that our relations of friendship ever suffered even a momentary interruption. In his death, therefore, I have sustained a loss which it would be difficult at my period of life to repair; but this is hardly the occasion to speak of our personal losses, especially when we recall the fact that by this death many closer ties of friendship than any we enjoyed have been severed.

We are here to express our approbation of the life and labors of one whose work is ended, and to deplore the loss which the Science of Medicine, and incidentally ourselves and the world at large, have sustained.

We cannot, however, properly estimate the value of those labors without a knowledge of the character and qualifications of the man by whom they were done.

Medicine is far from being an exact science. By the accumulated observation and study of many years it has made steady and substantial progress; but there remain many debatable questions, many decisions subject to revision, reversal or confirmation in the higher courts; and it is only by men who possess the highest intellectual and educational qualities, by men who are careful observers and laborious students, and who have had opportunities to observe and facilities for study, and, above all, by men who are conscientious—who recognize their responsibility to medical science, the profession and the world—it is only, I say, by the verdict of such men that those questions in medical science which are still at issue can be properly decided. And such a man was Dr. Flint. He was a voluminous writer, but I do not think he ever wrote a page except for the purpose of communicating something which his personal experience or studies had taught him was of value, and which he thought it his duty to communicate to others. He wrote because he had discovered a truth, and he desired to put it on record for the common use of mankind.

I will only detain you, gentlemen, to say a word as to his professional relations to medical men, and especially as a "consulting" physician, in which *rôle* he was most conspicuous in the later years of his life; and perhaps I cannot better illustrate his character in this capacity than by referring you to his "Commentaries" on the National Code of Medical Ethics, of which code he was the living embodiment and daily practical exponent. Guided by its excellent moral, social and ethical precepts, and by his own natural instincts, while he never ceased to regard the welfare of the sick as paramount to all other considerations, he reserved to the consultant his own plain and indefeasable rights, and sought always to protect the associate physician from unjust imputations or inferences. He sought also to secure for him, whenever he was entitled to it, the confidence of the patient and his friends.

To those who did not know personally Dr. Flint, these written "Commentaries" will always supply a faithful and complete portrait.

He has written his last page; and as we close the book and turn away, a feeling of satisfaction mingles with and chastens our sorrow, for the book has left nothing to call for an apology, nor one harsh word to disturb our reflections.

ADDRESS OF W. H. FLINT, M.D.

Mr. President and Gentlemen:

It affords me a melancholy, yet genuine, gratification to make a trifling contribution to the rich tribute of most just and merited eulogy so eloquently paid to Dr. Flint by gifted speakers this evening.

I can add nothing to the rare encomiums they have bestowed upon Dr. Flint for all the generosity and helpfulness he displayed in his intercourse with his professional brothers, for the purity of the motives which impelled him to each step of his career, and for his grand successes, achieved by patient and persistent labor; thus illustrating the truth uttered by the poet Longfellow when he says:

"The heights which great men won and kept
Were not attained by sudden flight,
But they, while their companions slept,
Were toiling upward, in the night."

The good deeds which Dr. Flint openly performed are recognized and praised on both continents.

The good which he privately did no one can know. The object of my present remarks is to throw a little light upon some kindly deeds of private charity, over which, during his lifetime, Dr. Flint carefully drew the veil of silence and forgetfulness.

When he crossed the ocean to gather new laurels for American medicine, he left to me the duty of dispensing a portion of his bounty among certain indigent, but deserving, people, whose very existence he had never mentioned, but whose lowly homes had long been brightened by his pecuniary assistance and by his personal professional ministrations. On his return he declined to allow me to relieve him of a part of his self-imposed burden of unremunerative professional labor, preferring to still remain, himself, the bearer of hope and cheer and comfort to his suffering *protégés*.

This simple example may serve to illustrate one phase of Dr. Flint's noble character, and this I desire to add, as my laurel-leaf, to the unfading garland already woven by countless loving and reverential hands.

ADDRESS OF FREDERIC S. DENNIS, M.D.

Mr. President and Gentlemen:

I do not feel as if I could say anything to add to the solemnity of this occasion. There is one feature which characterizes this meeting, and that is, the perfect unanimity of sentiment in regard to all the words of eulogy pronounced upon the late Dr. Flint.

This unanimity of sentiment is not limited to those in this room; it extends throughout the city, and throughout the length and breadth of this great country. The same feeling pervades the members of the profession in Europe, and the *Lancet*, in speaking of our departed friend, styled him the Sir Thomas Watson of American medicine. He was indeed a great and noble man, and we all feel deeply the sorrow which we have been called upon to endure. His good name is the greatest heritage which could be left, and we have embodied in his character all that was great, and pure, and noble. We have lost a valued friend, and the profession of medicine has lost one of the brightest ornaments which has ever adorned it.

ADDRESS OF J. W. S. GOULEY, M.D.

Mr. President and Fellow-members of the County Association:

I have come to pay my tribute of respect and affection to the memory of our departed dearly beloved friend and associate, Dr. Austin Flint. I had the honor to make his acquaintance twenty-six years ago, when we lived under the same roof. This acquaintance ripened into the warmest friendship, which ever remained unclouded. For twenty-five years we were colleagues in Bellevue Hospital, and in our frequent interviews during that time he always greeted me with a smile and other expressions of kindness which I can never forget. These manifestations of good-will, together with his many other noble traits of character, endeared him to me, as they did to all with whom he ever had social or professional relations. I never left his presence without a feeling of reverence such as every one experiences when he has communicated with a good and great man. He was a striking example of an ingenuous soul, allied with a lofty intellect. His methods were simple, his achievements great. His gifts, whether in kind words or in worldly goods, were made without ostentation, but his charity was always abounding. None ever applied to him for counsel and went away empty. His advice, whether on medical or other topics, was never given until he had carefully considered the subject, and his conclusion was always sound and practical. When he differed in opinion from a colleague, or even from a junior member of the profession, he always stated his own convictions in a courteous, mild, and inoffensive manner, however strong these convictions might be. It is related by one of the old internes of Bellevue Hospital that, on a certain occasion, Doctor Flint was called upon to settle a disputed point in diagnosis. After having made a careful and exhaustive examination of the patient, he gave his opinion in his usual felicitous manner. The youth whose diagnosis was traversed by the doctor, said, with much warmth, "Sir, I still think that I am in the right." The doctor smiled benevolently upon the inexperienced junior, and, without the slightest manifestation of impatience, said, in his turn, and in the mildest tone, "My friend, I am under a strong impression that you are in error, for the following reasons: * * * *" and in a short lecture convinced the youth, without wounding his feelings, and instructed all who heard him. The lesson was never forgotten, and it is even now often referred to in illustration of the characteristics of the great master. Nearly all the ex-internes of the hospital have some such experience to give of their relations with Doctor Flint. They all loved him for his charming personal qualities, and admired him for his great professional attainments. There was no time when he declined to perform any labor tending to the advancement and honor of the profession he so loved, and those associated with him felt that they should undertake nothing without his counsel and approval. He was always the chief in good deeds, and he sorrowed for evil-doers. His place in the profession will remain vacant in this generation, and the remembrance of his good actions will ever be green in our minds.

You all know how much he labored for the good cause, how much scientific work he performed in the State, District, and County Associations, how much influence he possessed over individuals and over the whole profession, how cheering was his presence in the sick chamber, both to the patient and the medical attendant, and how much he was valued for these qualities.

Others have already spoken of him as a teacher and author. I most heartily concur with them in their estimate of his powers in both of these capacities, and believe that as an author, always much in advance of his time, his views will be sustained, and will be current long after this and many other generations have passed away.

He labored most devotedly to the last for the good of his kind, and died in "harness," full of years and honors. When our great and good friend passed away we each shed a tear, not for him, but for the loss of him!

ADDRESS OF E. S. F. ARNOLD, M.D.

Mr. President and Gentlemen:

It seems almost presumptuous to attempt to add anything to the eloquent tributes to the memory of our deceased friend, Dr. Austin Flint. Few had more reason to be grateful to him than myself. My first nearer acquaintance with him was at my own bedside, when struggling through the longest and severest sickness I ever had, now over twenty years ago. He visited me many times in Yonkers, and to his skill and encouragement my recovery was doubtless largely due. Nor was this the only occasion under similar circumstances that I have had the benefit of that advice and assistance he was as ready to give to his professional brethren as to his more profitable patients, and I may say to all who needed him, rich or poor. The doctor was an embodiment of kindness, but when occasion or the maintenance of a principle required it, his firmness was no less conspicuous. When the State Medical Society threw aside the ethics of the American Medical Association, of which he had so recently been the honored President, and thereby cut itself off from representation in that body, Dr. Flint became one of the first of the founders of our State Medical Association, and subsequently manifested the greatest interest in its progress. He was ever willing to assist in its councils, ever ready to prepare a paper when called upon to add to the interest of its scientific work.

When our library last summer was, within the space of two short months, by the munificence of four or five of our brethren, converted from a room with a doorplate and four bare walls into a library with already well-filled bookshelves, Dr. Flint was just a little in advance of the other generous donors. When it was proposed to raise a building fund for the future purposes of the Association, Dr. Flint at once put down his name for one of the largest donations. His sympathies were eminently practical. His loss in the councils of the Executive Committee of the forthcoming International Medical Congress is well-nigh irreparable. He has left a chasm which, however it may be bridged over, can never be filled up. I may add here, too, that he was the first individual to make a liberal donation to facilitate the work of the Committee. With all his many activities outside of his laborious scientific and professional work, no present duty was ever left undone. Fresh or fatigued, his energies never flagged. Though complaining for more than two weeks before his death of loss of nervous energy and of exhaustion, on my suggesting to him to rest for the day and forego his lecture, he observed: "I have never omitted a lecture or quiz, and I shall try it, though I fear I may break down." His will power carried him through. No loss of his ordinary vim was perceptible to his hearers. It was permitted to him to attend, to the very last item, his college duties; thus, as has been observed, rounding off his career, and leaving a bright and shining example to the many thousands who have profited by his personal teachings. Nobly, indeed, has he employed the talents which the Almighty entrusted him with, and now that, full of years and honors, and enshrined in our hearts and memories, he has peacefully and unconsciously lain down to his last rest on earth, we have reason to believe that it will be to awaken to that blessed summons, "Well done thou good and faithful servant, enter thou into the joy of thy Lord!"

ADDRESS OF ISAAC E. TAYLOR, M. D.

Mr. President and Gentlemen:

On the eventful evening of March 13th, after a long session of the Faculty of the college, my colleague and friend, Dr. Flint, conveyed me in his carriage to my home, which was but a short distance from his own residence, and left me at 11:30 P. M. Scarcely had he retired to his couch for rest, when the "still, small voice" was heard by him that came to call him to a higher and a nobler sphere. Noislessly turned the key that shut him from our view; but we realize, alas! that he is absent from our midst forever.

To the history of his life, which you have heard so faithfully depicted by those who have preceded me, I cannot presume to add anything. Never were eulogies more justly merited, and I most cordially join in the tribute which they offer to his memory. The straight line of our lives, as regards time, begins to bend when we reach the age of two score years and ten; but our departed friend progressed towards the allotted period assigned to man so gracefully and serenely that his life was a beautifully rounded and complete one.

Words, on the present occasion, would appear to be almost useless. His unstained purity of private life, his virtues in both public and private, which are so highly esteemed, endeared him to us all. Truth was the shield of his character, and neither malice, nor envy, nor meanness could find a lodgment in his manly nature. In the treasure-house of our hearts and memories we will build his monument, and with the bright example of his life ever before us, may we too, like him, find "light at eventide."

ADDRESS OF J. P. GARRISH, M.D.

Mr. President and Gentlemen:

I should feel that I had neglected my duty if I did not say something in reference to Professor Flint. I can, at least, endorse the remarks of Dr. Janeway. He possessed a nobleness and goodness of heart that few of us can lay claim to. He visited my family in sickness, and I can testify not only to the usefulness of his services, but to his genial manner and to the promptness with which he responded to my call.

As Dr. Dalton beautifully remarked at the recent commencement exercises in this building, Dr. Flint has taken his final and highest degree, conferred by the Power that is supreme over us all; and the parchment of his biography now has the stamp of Emeritus. It remains for us to profit by the lessons of that noble life; to make good use of the teachings and example which he has left behind him. It is fitting, in token of our sorrow and of our recognition of his worth, that we should place on his tomb the lily and the rose.

ADDRESS OF GEORGE T. HARRISON, M.D.

Mr. President and Gentlemen:

The impressive character of the proceedings of this evening are but too well calculated to remind us that a great light has been extinguished. Aye, a planet of first magnitude has disappeared from our heaven. A short time ago we rejoiced in its beams; to-day our spirits are weighed down by the gloom of a profound darkness. As soon as the death of Dr. Flint was announced, the medical journals throughout this great land, with singular unanimity, voicing public sentiment, vied with each other in giving expression to a feeling of regret at the loss it involved to science, in extolling the magnitude of the work that he had accomplished, and in paying tribute to the beauty and symmetrical proportions of his noble character. It especially behooves this Association ever to keep the memory of Dr. Austin Flint green for what he has done in its behalf; and may we, one and all, members of the Association, inspired by the lesson of his life, endeavor hereafter to perform our duties more faithfully, so that our lives, like his, may be a benison to humanity.

ADDRESS OF HERMAN M. BIGGS, M.D.

Mr. President and Gentlemen:

There is certainly nothing that I can say that will add anything to the eulogies that have been delivered this evening. But personally I would say that, from the time when I first saw Dr. Flint at his clinic, in my first week as a medical student, up to the time of his death, I have always felt that no one whom I have ever seen or known has inspired in me such personal regard and affection, and such admiration, almost amounting to reverence, as he did, because of the nobility of his character, his extraordinary abilities as a physician, and his great courtesy and kindness to all.

Address of P. J. Lynch, M.D.

Mr. President and Gentlemen:

I can cordially endorse everything that has been said concerning our lost associate, Dr. Flint. I had the pleasure of enjoying his counsel as consulting physician, and became aware of his thorough disinterestedness of character and his willingness to do all in his power for the benefit of those in whose behalf he was called. I need not make any allusion to the high regard in which he has been held by the profession throughout his long and brilliant career. I am pleased, Mr. President, to thank you for allowing me this opportunity, unexpected though it is, to meet with you and express the love we all feel for the memory of Dr. Flint.

Address of J. E. Janvrin, M.D.

Mr. President and Gentlemen :

I do not think I can add anything to what has been already said. I have never been associated with Dr. Flint in his connection with college or hospital, but like many other busy practitioners I have often sought his advice as a consulting physician, and I can certainly coincide with and emphasize everything that has been said with reference to his character to-night.

Address of George L. Peabody, M.D.

Mr. President and Gentlemen :

I can heartily concur in the words of eulogy to which we have all listened with so much satisfaction this evening, and I only wish that anything had been left unsaid in order that I might say it. I will not take up your time, or the attention of the meeting, by reiterating anything that has been already said so much better than I could say it, but would merely add my word of heartfelt regret at the loss that we have all sustained, a loss from which we shall be many years in recovering.

Address of Ellsworth Eliot, M.D.

Mr. President and Gentlemen :

I am glad to say also a few words regarding our late friend, Dr. Flint. My recollection dates back to the time when he first came to this city. If I am right, sir, it was generally believed that a man, in order to succeed then, must have begun here when he was a young man, and have the favor of certain influential physicians. I heard at that time that Dr. Flint would not be successful, and would not be sufficiently encouraged to remain here, as had happened to other distinguished physicians ; but those who said so proved to be false prophets. He made his way, I believe, in spite of some opposition here, and reached the highest point. It was my lot oftentimes to meet him in consultation among the rich and the poor, and I think all present here will agree with me in this : they never had Dr. Flint's assistance that they did not want it again, and, more than that, the satisfaction which he gave the physician was always shared by the patient. He invariably made the most favorable impression. I know also how often he was appealed to in cases of difficulties that will occur occasionally between members of the profession, and how successful he was in settling disagreements and estrangements, and in reconciling friends, by simply pointing out in the plainest and simplest language what was right and just. We have heard here to-night how highly he was esteemed. I happened to see to-day, while looking over the transactions of the State Medical Society, a tribute which he paid to his friend and life-long associate, Professor James P. White, and I am glad to have a copy of it here to-night, as it seems so applicable to his own case:

"The giving away of life was sudden, brief, and unexpected. It may be said of him that he died in the harness, and I feel assured that his choice would have been so to die. * * * His last short illness was unattended by much suffering. He had made every preparation for death, whenever it might come. His mind was unclouded up to the last hours of life. For these sources of consolation, they who remain to mourn for a temporary separation from one who has been called to another existence before them, have reason to be grateful to the divine disposer of human events. To him was vouchsafed a long and useful and honorable career, fraught with happy memories. In this reflection there is much to console the bereaved widow and other relatives; but it is a saying not less true than trite, that in order to be reconciled to such afflictions, a higher than human power is to be invoked."—*Trans. Med. Society of the State of N. Y.*, 1882, page 346.

In conclusion I would say that I do not wonder, in view of all that has been said as to Dr. Flint's good traits, that even his antagonists—I will not say enemies, for I don't believe he had any—persist, under peculiar circumstances, in praising him.

ADDRESS OF CHARLES E. LOCKWOOD, M.D.

Mr. President and Gentlemen:

I do not know that there is anything that I can say in addition to what has already been stated. It was not my pleasure to know Dr. Flint personally for a very long period, but during that time I certainly was impressed by his gentlemanly manner, his learning, and his great kindness of heart, as well as by the sympathy he always felt for any one who was in trouble.

ADDRESS OF IRA B. READ, M.D.

Mr. President and Gentlemen:

I can only say that I heartily coincide with all that has been said, and the additional thought has come to me to-night, as I have listened to these well merited eulogies, that they are not words of fulsome praise, so often given only to the dead. We felt these in our hearts while he lived, and we would have said the same thing of him, if called upon, while he lived, and so the words of to-night but reflect the sentiments that have been in our hearts through the years that have passed.

ADDRESS OF J. R. MACGREGOR, M.D.

Mr. President and Gentlemen:

It would be presumptuous in me, even if I had the ability, to endeavor to offer anything in addition to what has been already said. Those who have been more intimately associated with our professional brother than myself have this evening paid eloquent and fitting tributes to his memory, both as regards the personal qualities that he exhibited, and what he had accomplished for the advancement of scientific knowledge in the profession, although I had seen enough of him to acquire valuable knowledge from his precepts, and to learn to love the man. It is in the experience of us all that during our lifetime we meet with some remarkable and prominent personages. I think that I am not extravagant in making the statement that within my whole range of experience I cannot bring to mind one who has more profoundly impressed me as being the living embodiment of all those qualities which become a man. I shall not—I cannot—attempt to analyze his character or his acquirements, but will venture to offer a single sentiment. I see around me some whose eyes are bright, and whose faces are impressed with the ardor of youth. With them life is yet largely before them, and they are animated with those hopes and ambitions which stimulate them on the road to distinction and honor. To such I would point to the career of our departed friend as bearing the true qualities for those who are aspiring. I also see around me those whose brows bear the furrowed traces of time, and in whose locks the sprinkling of silver betokens that they are no longer young. They have arrived at that period of life when the mind delights to revert to the recollections of the past, and to live over in memory the scenes that have long gone by. For them I would invoke a cherished remembrance of the gifts and graces of our lamented friend, as a pleasant fragrance to sweeten the solace of declining years.

ADDRESS OF SAMUEL T. HUBBARD, M.D.

Mr. President and Gentlemen:

I did not come here this evening with the expectation of saying a word, and I feel that I could not add anything to what has been said in praise of Dr. Flint. I have known him for many years, in fact I made his acquaintance very soon after he came to this city, and have had him in consultation on many occasions. I fully appreciate his wise counsel and his urbanity of manner, and shall never forget his kindness to my son in his last illness.

ADDRESS OF NATHAN BOZEMAN, M.D.

Mr. President and Gentlemen:

We all feel the great loss that we have sustained in the death of our departed friend, Dr. Flint. His character, however, has been so well set forth by gentlemen here who are far more capable of doing it than I, that I will not trespass upon your time by further enlarging upon it.

ADDRESS OF REGINALD H. SAYRE, M.D.

Mr. President and Gentlemen:

Dr. Flint's fame needs no eulogist in me, and I feel that nothing which I could say would add anything of value to that which has already been so appropriately said here this evening.

The following letters were then read by the Secretary, P. Brynberg Porter, M.D.:

FROM PROFESSOR NATHAN S. DAVIS, M.D., LL.D., OF CHICAGO.

CHICAGO, Ill., *April* 13, 1886.
65 Randolph Street.

P. BRYNBERG PORTER., M.D., *Secretary New York County Medical Association.*

Dear Doctor:

Your kind invitation to attend the New York County Medical Association Memorial Meeting, on the 19th inst., is received. It would give me a great, though sad, pleasure to meet with your society and participate in exercises fittingly commemorative of one who has so long filled the first place in the literature and science of American Medicine, and equally the first place in the society organizations of our country, as the late Professor Austin Flint. But the length of the journey and the number and nature of my engagements will not permit me to do so. I will only add that, while in the death of Dr. Flint we have lost the living presence of a *great,* and *good* and *wise* man, both the present and future generations will continue to profit by the *rich legacy* of his *works,* and the more enduring influence of his *noble example.*

Yours, with great respect,
N. S. DAVIS.

FROM E. M. MOORE, M.D., PRESIDENT OF THE NEW YORK STATE MEDICAL ASSOCIATION.

ROCHESTER, *April* 18, 1886.

DR. P. BRYNBERG PORTER, M.D., *Secretary New York County Medical Association.*

Dear Doctor:

I received your invitation to be present at the meeting memorial of Dr. Flint, to be held on the 19th inst. It is needless to say how much I regret my inability to be present among the friends of medical science on the occasion, for it is one that marks an era in the history of the medical profession in the State of New York, and indeed has a wider space of interest. Dr. Flint lived and moved in an atmosphere of medical science, and would have continued to do so if his years had been prolonged to a century. He suddenly closed his labors, while preparing to cross the ocean to read a paper at the British Association, and making ready a welcome to the whole medical world during the coming year. These facts are known to all, and fill out the measure of a long and laborious life. But of such matters I have little to say. They are of the present time.

My acquaintance with Dr. Flint dates from the period of his early professional life, when the status he was to occupy was still uncertain. But one who came within the charm of intercourse with him was soon made to feel that there was a future for him in the hierarchy of the profession. His first efforts at teaching were made before popular audiences. The mannikin of Azoux was then a novelty, and the young teacher was attracted by its beauty, and forthwith essayed to explain it to such audiences as he could gather. For this purpose he went to other towns than the one he lived in. Thus I became his auditor. The great and lucid teacher was yearning for his place. He had not long to wait. The establishment of the medical school in Buffalo, largely by his effort, gave the wished-for opportunity, and satisfied the mental want that pressed upon him. Henceforth we find him laboring in the field that produced the great results upon which we are all so well informed. At this time the habit of tabulating the details of medical observations was far less common than at present. It was but a few years before this that Louis had established what may be properly called the statistical school. In the absence of an ascertained law, the statistical table foreshadows it. To this labor the young professor applied himself with assiduity. Then resulted the new and marvellous observations on the well in Erie County, poisoned with typhoid fever secretions. With Dr. Flint's works most medical men are familiar, and I will not dilate upon them.

But the friends of Dr. Flint are not gathered together merely to testify to his medical acquirements and the additions he has made to knowledge. Above all this we see the man, moving among men, without the stain of wrong in his relations to them, as a man or a physician. The difficult rôle which this demands—one reaching an ideal standard—is within the reach of a few only. But it was easy for him. He began right, and then the course was the necessity of advancing years. He mourned over the strange defection of the last few years, but the course to be pursued was open to his sight, and he firmly held up the standard which the wavering and the deserters must always respect. Permit me to add this drop to the stream of regard that I know is flowing freely at your gathering. Very truly yours,

E. M. MOORE.

FROM E. D. FERGUSON, M.D. *Corresponding and Statistical Secretary of the New York State Medical Association.*

NO. 1 UNION PLACE, TROY, N. Y., *April* 17, 1886.

TO P. BRYNBERG PORTER, M.D., *Recording Secretary New York County Medical Association.*

Dear Doctor:

It is with deep regret that I find myself unable to attend the meeting of the

New York County Medical Association on next Monday evening, when addresses and communications will be made relating to the character of our deceased friend and leader, Dr. Austin Flint.

I know that each one present on that occasion, and the absent multitude, who would gladly attend were it possible to do so, will feel that Dr. Flint represented, as nearly as is possible, the perfect man and the complete physician; but I feel that words cannot be placed in descriptive phrase to show the true estimate which our judgment and affections have placed upon him.

My early professional studies brought me into relation with his writings and his lectures, and it was at once apparent to me that he possessed, in the highest degree, the quality of mind suited to an analysis of the complex problems connected with the science of medicine—to separate the essential from the unessential, to recognize the attainable, and avoid the vain struggle for the unattainable, to endeavor to accomplish the practicable without a needless waste of energy on the unpracticable problems of our art.

I have felt and said, and I still believe it to be true, that Dr. Flint did more than any other man of his generation to advance the science of medicine, and this was due more to the methods of study and analysis which he practiced and taught than to any direct contribution to what may be called medical discoveries. I say this with a full realization of the great value of his original work. He taught an army of physicians to investigate cases of disease in a rational manner, and to ascertain the indications for treatment connected therewith. I cheerfully acknowledge my own obligation to him in my professional work, and I believe that the same sense of obligation is shared by thousands of the profession throughout our country, and, in truth, throughout the world.

Dr. Flint's greatest work as a physician did not lie in the new aids he brought to our therapeutical resources, but that he followed methods of investigation, and taught the same to a large number of physicians, whereby error might often be avoided, even when the truth could not be demonstrated. This ability to avoid the errors made strong by tradition is of a higher order than to discover some fact in physical science.

A few years ago circumstances brought me into more intimate relations with him, and I came to know more of those excellent, noble, and lovable traits of character which made him so dear to those who were favored with his intimate acquaintanceship. His gentleness and goodness, his patience with the foibles of others, his desire to avoid the wounding of the feelings of any one, however greatly in error he might regard him, his unwillingness to cast an imputation of unworthy motive, were personal characteristics recognized by all who knew him, and yet there was never a withholding of his own convictions if occasion demanded an expression of his opinion. It was manifest that he had not only achieved the ability to do the right, but that higher plane in which the right alone was in his thoughts.

The influence of Dr. Flint for good will live through generations.

He lives for *us* in his works, in his character, in a memory that is blessed, while he himself rests in peace.

Your obedient servant,

E. D. FERGUSON.

FROM JOSEPH C. HUTCHISON, M.D., *Ex-President of the Fifth District Branch of the New York State Medical Association.*

BROOKLYN, N. Y., *March* 26, 1886.

P. BRYNBERG PORTER, M.D., *Secretary of the New York County Medical Association.*

Dear Doctor:

I regret that I cannot atttend the memorial services on the 19th inst., in honor of the late Dr. Austin Flint, to which you have kindly invited me, but I cannot repress the desire to comply with your request to send a short communication in reference to his life and services.

I regarded Dr. Flint as the leading physician of the United States, and believe such will be the judgment of history. His efficiency was equal to his reputation, and his reputation was not only exalted, it was real; it was based on achievement, and it was ratified by his brethren here and abroad. He inherited from ancestors, famed in medicine, large abilities, special aptitude for the application of those abilities to their profession and his, and the obligation to live worthy of such a legacy. He increased not only the distinction of his name, but he agumented the value of his calling to mankind. The most searching examination of the facts would justify this statement of his preeminence.

As a man he was ideally honorable, kind and gentle. His manner, so courtly, equable and unassuming, was the interpretation of a noble soul and a great mind which were refined by large culture gathered by training, study and travel. I cannot trust myself to refer to him as a friend. The shock and wound of his disease are too recent and too acute for me to say more than that I loved him very much and miss him more than words can express.

Very truly yours,

JOSEPH C. HUTCHISON.

Letters of regret were also received from Dr. J. G. Porteous, of Poughkeepsie, President of the Fifth District Branch of the New York State Medical Association; Dr. William Detmold, Ex-President of the New York County Medical Association; Dr. E. R. Squibb, of Brooklyn; Dr. Thomas F. Rochester, of Buffalo, and a number of others.

MEMORIAL OF THE ERIE COUNTY MEDICAL SOCIETY.

At a special meeting of the Erie (N. Y.) County Medical Society, held March 19, 1886, the following memorial, prepared in response to an invitation to the profession of Buffalo to be represented at the meeting, was adopted:

It would seem most fitting and appropriate that some expression be given by the Society of its sense of the loss sustained by the medical profession in the recent death of our much-esteemed former fellow-townsman, Dr. Austin Flint, Sr. Dr. Flint was an honored member of the Erie County Medical Society for many years. It may be truthfully said that he was the first to give a scientific character to its meetings. The death of such a man is felt far and wide. In many parts of Europe his reputation as a scientist and great physician is as well known as in America. The *London Lancet* years ago uttered but the simple truth, when in a review of his great work on "The Principles and Practice of Medicine," it said: "'Tis given to but few men to tread in the footsteps of Austin Flint." Dr. Flint was a resident of Buffalo for twenty-three years, a member of this society for eighteen years. He came to Buffalo in 1836, and became a member of the Erie County Medical Society in 1841. In 1856 he removed to New York City. It is not necessary to speak at this time of his worth and of his fame as a great writer and teacher. What student of medicine does not know or has not heard of Dr. Flint? What practicing physician, consulting his writings, has not felt that the record before him was stamped with the impression of a great mind, and with the assurance of its fidelity and truth? It has been said that the best evidence of reputation is a man's whole life, and by his whole life may be understood his private as well as his public life, or, in other words, his life as a man and as a physician. To those who had the pleasure and the honor of an intimate acquaintance what him, how admirable was the man! As a host or presiding at the social board, with grace of manner conjoined with sparkling wit or genial humor! In professional intercourse, or if called in consultation, what could exceed his delicacy of conduct towards his fellow-practitioners! Guided by his Christian principles he evinced a perfect abnegation of self. Therefore be it the sense of this society:

That while in accord with the sentiment of the profession as to his conspicuous abilities, as an author of world-wide distinction, and as a teacher, impressive and graceful in manner and scholarly and exhaustive in matter, we would, as fellow-practitioners for many years in this city, give special expression to our appreciation of him as an associate in professional labor, at the bedside, and in association discussions. And in those respects it is hazarding little to say that in the dominion of physical diagnosis of lung and heart affections our deceased friend had no superior, perhaps no equal. He was of that rare type of the medical practitioner, and a gentleman who, by reason of his careful observations, experience and erudition, his courtesy and consideration toward fellow-workers, especially those yet inexpert, his fascinating manner of conveying his suggestions and advice, his high merit and great modesty of demeanor, with many other excellencies, rendered it well-nigh equivalent to a liberal education to be favored with long and intimate fellowship with him. One could not fail to be impressed that in his intercourse with his associates he was actuated by, and strove to illustrate the spirit of the injunction, "Put yourself in his place," it being another form of the Golden Rule. When a professional character of such exceptional greatness and excellence drops out of our ranks, we do but honor our calling and ourselves in paying tribute to his memory.

JAMES B. SAMO,
P. H. STRONG,
C. C. WYCKOFF.

RESOLUTIONS OF THE ASSOCIATION OF PHYSICIANS OF LOUISVILLE, KY.

The following tribute was received from the profession of Louisville.

At a meeting of the Association of Physicians, Louisville, Ky., the following resolutions on the occasion of the death of Professor Austin Flint were unanimously adopted:

WHEREAS, In the dispensation of Divine Providence, Almighty God has called from his sphere of noble usefulness on this earth our beloved and venerated friend and brother in the medical profession, Professsor Austin Flint,

Resolved, That in Professor Austin Flint we recognize a man of elevated Christian character, of gentle and sympathetic nature, a friend of kind and amiable disposition, who had endeared himself to us by the charming and winning personal attractions.

Resolved, That he was to us the perfect type of the high-minded, conscientious, trained, and most skilful physician, ever ready to benefit mankind by the exercise of his unusual powers, ever cheerfully aiding his medical brethren by his wise counsels.

Resolved, That in him medical science has lost one of her most illustrious contributors and the medical profession one of its most earnest and devoted members, whose private virtues, scientific career, and public acts ever reflected honor upon this profession, and tended to promote its highest interests and welfare.

Resolved, That as a writer and a teacher we accord to Professor Flint a position inferior to none. Simple and clear, severely truthful, combining great powers of generalization with remarkable accuracy and attention in detail, his numerous and unrivalled writings on practical medicine have moulded professional opinion in this country and abroad for more than a quarter of a century, and are destined, for many years to come, to exercise a most beneficent influence upon our profession, and to shed glory upon it and on our country.

Resolved, That we most sincerely mourn his loss, which we regard as a national calamity, and that we tender our heartfelt sympathy with his family and friends in this bereavement.

Resolved, That a copy of these resolutions be transmitted to the secretary of the memorial meeting to be held in the city of New York on the 19th of April, 1886.

J. A. OCTERLONEY,
T. P. SATTERWHITE,
SAMUEL BRANDEIS,
P. GUNTERMAN.

On motion of Dr. Joseph D. Bryant, seconded by Dr. Lewis A. Sayre, the resolutions read by Dr. Shrady, for the committee, were unanimously adopted.

On motion of Dr. Sayre it was also ordered that the Proceedings of the Memorial Meeting should be entered in full on the minutes.

P. BRYNBERG PORTER, M.D., *Recording Secretary,*
New York County Medical Association.

ARTICLE II.

THOMSEN'S DISEASE. By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army (Retired List), Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital, etc.

Thomsen's disease is so called from the fact that it was first fully described by Dr. Thomsen* (though it had been previously noticed), and that he was himself the subject of the affection. Thus far it has been observed mainly in Germany, though a few cases have been reported in France. In Great Britain and in this country it appears to be absolutely unrecognized, though doubtless cases of it exist.

Thomsen's disease is chiefly characterized by the supervention of tonic spasms in the muscles, to which, in the act of exerting them, volitional impulses are sent, and which remain for some time after the movement is executed. They do not, therefore, prevent the action that is willed, but they render it difficult and interfere materially with its promptness.

Erb and others have credited Sir Charles Bell as being the first to make mention of the disease under notice, but I think a little consideration will serve to show that Sir Charles referred to something quite different from the affection now known as Thomsen's disease. Thus, speaking of affection of the voluntary nerves, he says: †

"Impediment of speech, when the consent of the muscles is imperfect; but this sometimes extends to all the muscles of the body. I find that some are capable of lifting a heavy weight, or walking fifteen or twenty miles, and yet they have not the proper command of their limbs; there is an insecurity and want of confidence in the motions of the body which overtakes them upon any excitement; a paralysis of the knees, which prevents them from putting one leg before the other, and which endangers their falling. Thus, a gentleman capable of great bodily exertion, on going to hand a lady into the dining-room, will stagger like a drunken man, and, in the streets, any sudden noise or occasion of getting quickly out of the way will cause him to fall down, and in this manner a want of confidence produces a nervous excitement which increases the evil. With confidence the power of volition acts sufficiently; there is neither defect of speech nor irresolution in the motion of the limbs when the person is at ease or under the flow of spirits."

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* "Tonische Krämpfe in willkürlich beweglichen Muskeln," u. s. w., *Archiv. für Psych. u. Nerv.*, B. vi., S. 702. 1876.

† "The Nervous System of the Human Body." Third Edition, London, 1844, p. 436.

It is evident that this description does not apply to Thomsen's disease, an affection in which the degree of confidence or extent of flow of spirits of the subject has nothing to do with the ease or restraint of the muscular actions. Benedict,* however, in 1864, and Leyden,† in 1874, cite cases that were probably instances of the disease, but it was not until Thomsen,‡ in 1876, and Seeligmueller,§ later in the same year, published their memoirs on the subject, that the affection was clearly and fully described, and attention drawn to the fact that a new pathological entity had been discovered. Since that time Westphal ‖ and others have reported cases. There is no more striking case on record than the following, which I quote from Leyden; it will be seen from its consideration that he very clearly recognized the disease, although he did not make as much of it as was warranted. He appears to have regarded it as constituting a group of symptoms functional in their character and liable to be met with in several diseases of the spinal cord:

"D., twenty-eight years old; merchant; parents, brothers and sisters in good health, with the exception of one brother affected with a disease of the muscular system similar to that from which he suffers. As to himself, aside from the usual diseases of infancy and an intermittent fever with which he was attacked in 1854, he has always enjoyed good health. The disease with which he now complains consists of a certain stiffness or rigidity in all muscular action. He has always suffered from it, so far at least as his memory goes, without there having been any appreciable modification in the symptoms.

"19*th April*, 1866. *Actual State.*—The patient is stout, broad across the shoulders, and very fat. The muscular development, especially that of the limbs, is that of an athlete; the calves in repose are 0.47 metre in circumference; the muscles show nothing abnormal exteriorly. He is of florid countenance, and all his organs have, like his muscles, the appearance of perfect health. He complains only of an extraordinary rigidity, characterized by the fact that the voluntary muscles do not promptly obey the will, and that the intentional movements are thus stopped half-way, the muscles exhibiting a condition of tetanic stiffness.

"Speech is a little slow and embarrassed, without there being, however, any stammering. When the patient wishes to move his tongue a little rapidly from one side of his mouth to the other, it remains for a certain time immov-

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[*] Deutsche Klinik, Nos. 30, 34, 1864.

[†] "Klinik der Rückenmarks-Krankheiten," Erster Band, S. 128.

[‡] "Tonische Krämpfe in willkürlich beweglichen Muskeln," u. s. w., *Archiv. für Psychologie und Nerven-Krankheiten*, B. vi., S. 702.

[§] "Tonische Krämpfe in willkürlich beweglichen Muskeln, *Deutsche med. Wochenschrift*, Nos. 33 and 34.

[‖] *Deutsche med. Wochenschrift*, 1883, S. 86.

able, without his having the power to put it in motion. He has remarked that in reading he cannot always direct his sight according to his wishes. The globe of the eye follows tolerably well the finger moved before it, except that the motion upward is not continuous, but intermittent. The voluntary contractions of the face exhibit a great degree of slowness, and a similar rigidity is especially manifested in the extension of the hands and fingers; when he only half flexes the fingers, he can extend them again completely and rapidly. If, however, he firmly closes the hand, it is impossible for him to quickly open the fingers; he then slowly and painfully opens one finger after the other, appearing as though he was overcoming a great resistance; but, when he has performed this action several times one after the other, the extension becomes easy and the muscles more supple. As to the muscular strength, it is considerable, and it appears to bear a proper relation to the volume of muscles; electricity acts normally. The lower limbs present exactly the same manifestations as the superior. The patient states that, when he rises from the chair, his walking is difficult and uncertain. His legs are perfectly stiff, and he is in danger of falling. When he has walked for some time, the action becomes quite normal. The rigidity becomes still more manifest when, after having walked some little while, he sits down and again begins to walk. This muscular rigidity is a very painful infirmity; it prevents the subject of it from dancing and from running, and exempts him from military service. Notwithstanding long-continued medical treatment, the disease has not changed; it is neither increased nor diminished."

This case gives a very excellent idea of the symptoms of Thomsen's disease, though, perhaps, it does not exhibit sufficiently clearly some of the more important phenomena of the affection. Thus, the muscular hypertrophy, which is so commonly met with in the disease, is not so prominently brought out as is to be desired.

Vigouroux* has especially insisted upon this feature, and, in an interesting case detailed at length, has brought it to the attention of the profession. In almost every case of the disease that has been observed the muscles have been greatly enlarged. It is not yet quite certain whether or not this circumstance results from the same central lesion that gives rise to Thomsen's disease, or whether it has its own morbid centre, such as has pseudo-hypertrophic paralysis. Vigouroux also calls attention to the exaggerated tendonous reflexes that were observed in his case. It is probable that they constitute a feature in every instance of the disease, although they had not previously to his observations been observed by writers on the subject.

It is difficult in the present state of our knowledge to form a correct idea relative to the anatomical seat of the lesion that gives rise to the symptoms of Thomsen's disease: whether the brain in which the motor impulses arise is at fault, whether the spinal cord through which they pass is involved, or whether we must look to the muscles themselves for the morbid anatomical factor, we cannot yet determine; my own opinion is, that both the brain and the spinal cord are involved, and that the muscles are not originally affected.

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* "Maladie de Thomsen et paralysie pseudo-hypertrophique," *Archives de Neurologie*, November, 1884.

Seppilli* thus sums up our present knowledge of this remarkable disease:

"1. The characteristic phenomenon of the disease of Thomsen consists in a tonic spasm, not painful, of the muscles, and this is produced in the moment of inception of voluntary movements. In consequence of this, there intervenes, between the voluntary impulse and the execution of the movements, a length of time that ordinarily oscillates between one second and ten.

"2. The tonic spasm is produced exclusively in the voluntary muscles, whether in those of the limbs or of the trunk and the face. The rectal and vesical sphincters show no disturbance.

"3. The contraction of the voluntary muscles does not yield immediately to the volition activity. This is especially verified when the muscles accomplish abrupt, rapid, or exaggerated movements, or are put in action by means of electric or mechanical stimuli applied directly over them, or over the nerves which ramify to them. Sometimes passive movements provoke a prolonged contraction of the muscles acted on.

"4. Repetition of the voluntary movements causes the entire cessation of the phenomenon of the tonic spasm in those muscles which have executed them. Sensibility remains intact.

"5. There are reasons for holding with more probability that the disease of Thomsen is of a neuropathic rather than of a myopathic nature, and that it depends on an exaggerated activity of the nervous apparatus which produces muscular tone. This doctrine is founded principally on the fact that the muscular phenomena of the disease of Thomsen have much analogy to the muscular phenomena of hysterical hypnosis, the genesis of which is precisely explained by a functional hyper-activity of the nervous centres of muscular tonicity."

Treatment.—Relative to the treatment of Thomsen's disease, there are no data by which we can be guided. The affection appears to be so thoroughly a part of the individual, so intimately bound up with his life, as to constitute an essential feature of his existence. It is not probable, therefore, that we shall ever be able to mitigate, much less to cure, a case of Thomsen's disease.

ARTICLE III.

PNUEMATIC DIFFERENTIATION.† By G. W. McCASKEY, M.D., Fort Wayne, Indiana.

There is a growing tendency on the part of the medical profession, and of the public, to resort to the operations of natural law for the alleviation of human suffering. The surgeon resorts to compression for the removal of plastic and serous exudates ; the aid of gravity is often invoked to relieve the painful tension of inflamed tissues by such a position as will permit the blood to flow to healthy and more dependent structures. And so, in treating the various forms of pulmonary disease, attention has been called again and again, and with increasing force, to atmospheric pressure under different physical conditions as a mechanico-therapeutical agent. The evolution of theory and practice have been slow and irregular. To trace it would be to outline the entire history of pneumo-therapy, which is not my present design.

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* "Morbus Thomsenii," the *Alienist and Neurologist*, October, 1884. Translation by Dr. Joseph Workman, from the *Archivio Italiano*, September, 1883.

†Read before the Indiana State Medical Society at its annual meeting at Indianapolis, May 12, 1886.

My present purpose is to present, in a very general manner, the subject of pneumatic differentiation, by which may be understood an artificial change in the density of the air. With special reference to the respiratory organs, it will be found upon reflection that there are four, and only four, possible differentiations of atmospheric pressure : 1. Complete immersion in an atmosphere of increased density, breathing the same medium ; 2. complete immersion in an atmosphere of lowered tension, breathing the same medium ; 3. immersion in air of given density, breathing a relatively rarefied medium ; 4. immersion in air of given tension, breathing a medium relatively dense. If any one should have the temerity to doubt the potency of these changes upon the organism, it would be necessary only to refer to the vomiting, paralysis, vertigo, or coma of caisson disease, produced by dense air, or to the frequent rupture of the superficial blood-vessels of nose or ear when ascending high mountains ; while the impossibility of respiring into and from a receptacle containing air either of extreme rarity or extreme density is too obvious to require more than a passing allusion.

Inside these danger limits there is, however, a wide range of variations. The extent to which differentiation can be safely carried must obviously vary with age, sex, dynamic force of respiratory muscles, structural condition of lungs, and state of circulatory apparatus.

With regard to the first condition, viz., immersion in dense air, breathing the same medium, it would seem that the pressure may be increased one atmosphere without danger of engorgement of brain and cord or the forcing of nitrogen into the blood ; in other words, until the barometer in the compartment stands at sixty inches, instead of thirty—a differentiation of thirty inches.

Concerning the second condition named, immersion in a rarefied medium, we may take a hint from natural conditions found in elevated regions. The barometer at the summit of Mont Blanc stands at about seventeen inches. It seems reasonable to assume that the same degree of rarefaction, gradually produced, could be borne under artificial conditions. Indeed, the experiments of Paul Bert show that, if oxygen is freely supplied, rarefaction can be safely carried to a much greater extent. We can assume, as within the limits of safety, an extreme range of pressure equal to a column of mercury more than forty inches high, or a pressure of about twenty pounds to the square inch. The influence of these changes of pressure upon the functions of the body must be enormous. The forces of the circulation are adjusted to an average pressure of about fifteen pounds to the square inch. If this pressure is materially increased, the capillaries of skin and lungs, and of tissues which are not protected by bony or cartilaginous casements, are the first to suffer. Their calibre is diminished by the pressure, as demonstrated by the extreme pallor of workmen in caissons, and the volume of blood is driven to the heart and vessels which are protected from pressure. The quantity of gases which the blood holds in solution is much increased. The heart must be stimulated to contract with unwonted vigor by the increased volume of blood. This volume of blood is largely sent in the channels of least resistance. The cerebro-spinal axis must be spurred into unusual activity by increased blood-supply. The domination of the nervous system over every function of the body readily suggests how marked an influence increased atmospheric pressure might thus indirectly exert over nutritive and morbid processes of the entire body.

Time will not permit to further trace these processes. Rarefaction must have, in many respects, a diametrically opposite effect. Removal of pressure will distend the capillaries, and will lessen the amount of gases which the blood holds in solution. This decrease may become so marked that the blood will not retain sufficient oxygen for nutritive purposes. Arterial blood may even contain less oxygen than is normally found in venous, and the patient ultimately die of asphyxia.

These changes of pressure, to be safe, must be gradual, and not sudden. A sudden decrease might liberate free gas in the blood, thus resulting in thrombi and death.

We now have left for consideration the last two methods of differentiation, in which the air entering the lungs is of different density from that surrounding the chest. The limits of these changes of pressure are defined by entirely different considerations. If the body is surrounded by an atmosphere of given tension, and the lungs are placed in communication with a relatively denser medium, inspiration is involuntarily accomplished by a process of inflation; but expiration is labored, and, at a certain point, mathematically defined, when the differentiation exceeds the dynamic force of the expiratory muscles, becomes absolutely impossible. Conversely, when the patient is placed in a given medium, and the lungs in communication with a relatively rare atmosphere, expiration is accelerated by the weight of atmospheric pressure on the chest and abdominal walls; but inspiration is labored, and, at a corresponding point, when the dynamic force of the inspiratory muscles is exceeded by differential pressure, also becomes impossible.

The dynamic force of the respiratory muscles varies, of course, in different persons. In my own person I find by actual experiment that my expiratory muscles have a force sufficient to maintain a column of mercury two and a quarter inches high, while my inspiratory muscles will only sustain a column one and three-quarters inches high. From a few experiments made on others, I am inclined to think that these figures are not far from correct, as an average measurement of the force of the respiratory muscles. It then follows that a differentiation of two inches, or one-fifteenth of an atmosphere, would exceed the inspiratory muscles, or that three inches, or about one-tenth of an atmosphere, would exceed the respiratory muscles. Owing to structural changes in the lung-tissue and circulatory apparatus, only very slight differentiations may be allowable—say one three-hundredth of an atmosphere, or one-tenth of an inch of mercury.

The discussion of the effect of respiration of a relatively rarefied atmosphere will be entirely omitted, owing to lack of time. And before discussing respiration of an atmosphere relatively more dense than that which surrounds the patient, a few words will be given to a description of the particular mechanism which it is now proposed to use for this purpose. (Apparatus exhibited.)

Briefly, then, it is an air-tight cabinet, invented by Mr. Joseph Ketchum, of suitable size and construction to receive a patient, with proper apparatus for rapidly increasing or diminishing the atmospheric pressure, and for the patient's breathing into and back from the normal atmosphere. Thus, it will be observed that the cabinet can be utilized for any one of the four methods of differentiation enumerated above, to which can be added a combination of the last two, resulting in alternations of compression and rarefaction during the same respiratory act. It will also be noticed that when the patient, in using the cabinet, breathes an atmosphere either rarer or denser than the one surrounding his body, he is always breathing the normal atmosphere of the space in which the cabinet is placed. The respiratory volume is only made relatively denser or rarer by forcing air into, or abstracting air from, the cabinet surrounding the patient. When air is forced into the cabinet, its atmosphere assumes greater pressure or tension, and the air outside the cabinet assumes to it the relation of a rarefied medium, and *vice versâ*.

Let us consider now, somewhat in detail, the process of abstracting a certain proportion of air from the cabinet, thus surrounding the patient with a rarefied atmosphere, and allowing him to breathe the normal air, by means of a breathing-tube passing through the wall of the cabinet. This is the method which has been most extensively practiced, and with which the great bulk of the clinical observations have been made. The degree to which this method of differentiation can properly be carried must vary widely. As intimated above, the muscular efforts of the respiratory process are partly reversed. The inspiratory muscles remain quiet, while the air rushes into the lungs with a degree of force proportioned to the differentiation. The expiratory muscles, ordinarily quiescent, are compelled to exert themselves for the purpose of counteracting the pressure of the outside air, and forcing the air out of the lungs. The elastic tension of the pulmonary tissue, which usually effects expiration, is insufficient. In short, inspiration is passive, while expiration is active; just the reverse of normal conditions.

If the pressure of two and a quarter inches of mercury represent the full expression of the expiratory force, then to go beyond this would be to make expiration impossible. But it is manifestly neither safe nor desirable to even approximate this extreme limit of antagonism. As a matter of fact, Dr. H. F. Williams, who has had a wider experience with the cabinet than any one else, does not ordinarily use a pressure in excess of one inch, commencing usually with one of two-tenths of an inch.

The purpose of this method of differentiation is two-fold: first, mechanical; second, medicinal.

The mechanical effects are many and far-reaching. There is, first, the removal of a certain amount of atmospheric pressure from the body, which tends slightly to increase the capacity of the cutaneous capillaries, and possibly relieve internal engorgements. The relatively denser air from the outside rushes in, filling every permeable lobule, and distending alveoli and air-cells which were partially collapsed before. In this respect it resembles the inspiration of condensed air, and accomplishes expansion and ventilation of lung structure which could not have been done by forcible voluntary inspiration, because of the weakened state of the chest muscles. The mere expansion of functionally inactive air-cells and alveoli is in itself a powerful agent. To effect expansion of the alveoli and air-cells at the apices would alone, in many cases, prevent the development of phthisis, or arrest it if developed. The quickening of nutritive processes, the removal of blood stasis, and the mechanical pressure exerted upon the pulmonary structure, are alike beneficial in their results. With nutritive processes normally active, the deposition of tubercle would probably be impossible. And any agent, be it mechanical or otherwise, which brings about a higher tone of general or local nutrition is antagonistic to the development of tubercle.

The effect upon the circulation of inspiring a relatively dense air while in the cabinet does not seem clearly determined. Dr. E. Tiegel, from a series of experiments, has reached the conclusion that arterial tension is increased. I do not, however, feel disposed to accept his conclusion. Arterial tension, so far as it is affected by respiratory influences, mainly depends upon the volume of the blood. The relatively dense air which the patient is respiring will increase intrathoracic pressure, which will diminish the calibre of the veins, and thus lessen the flow of blood into the right auricle. If this differentiation is in excess of the elastic tension of the lungs, there will be no lowering of pressure in the pleural spaces, as in ordinary respiration, by reason of which the pressure of air on the veins of the neck and abdominal organs forces an increased quantity of blood to the right heart. This factor of so-called aspiration, which increases arterial tension during normal inspiration, is entirely absent, and replaced by opposite conditions. The increased number of heart beats per minute, uniformly noticed in this cabinet, is further corroborative of the view that arterial tension is lowered; for, in accordance with Marey's law, the arterial tension is universally proportional to the frequency of the pulse. The experiment with the manometer connecting with the trachea is hardly conclusive. Reasoning from the forgeoing facts, and in the absence of positive proofs to the contrary, I am forced to the conclusion that arterial tension is lowered, not increased.

There are many other features of the mechanical effects which it would be interesting to dwell upon if time permitted, but this must suffice.

More important, perhaps, than the mechanical effects are the possibilities of direct local medication. Antiseptics, astringents, alteratives, and sedative applications can be made with a thoroughness never before accomplished. The evidence supporting this assertion is entirely conclusive. Take the case of Dr. Williams, in which a pulmonary abscess was opened externally, and dressed with a starch bandage. The patient was placed in a cabinet, and a three per cent. solution of iodine used in the spray, when the characteristic re-action of iodine was demonstrated. It seems to me that we are forced either to deny the fact or accept its logic. Moreover, numerous experiments made with lungs of lower animals demonstrate that medicaments held in suspension in the air can be carried, by means of the pneumatic cabinet, to the deepest recesses of the respiratory tract. What the fullest measure of benefit from local medication will be, remains for future clinical investigation to determine; but the successful introduction of medicinal agents into the air-cells and alveoli is a crowning triumph of physical law, and marks a new and distinct era in the treatment of pulmonary disease.

The question naturally arises why medicines suspended in the air would be carried more deeply into the lungs in the cabinet than out of it. The answer is a definite one, and depends upon well-known physical and physiological laws. If the normal atmosphere be saturated with moisture, and then compressed, it will deposit a certain proportion of this moisture. But the air which enters the lungs is compressed at the moment of expiration, by reason of the labored expiratory act, and narrowing of the glottis. If this air, therefore, be saturated with moisture as it enters, it must deposit a portion of it at the moment of expiration.

I am aware that this sketch is exceedingly imperfect; but it is all that could be done within the prescribed limit of 3,000 words. It will at least serve to place the subject before the society for thought and discussion.

I will be compelled to pass over the subject of clinical results with the briefest notice. My own experience, in seven cases, has been encouraging. My best result was obtained in a case of unresolved pneumonia of two years' standing. Two cases of phthisis have been greatly benefited. Two other advanced cases have received no benefit.

Much clinical work that has been done is now ready for the press. When this has been presented and placed side by side with the records of cases already published, I think it will justify the prediction that in the "pneumatic cabinet" phthisis pulmonalis has at last "met a foeman worthy of its steel."

ORIGINAL TRANSLATIONS.

APROPOS OF SIX CASES OF HYSTERIA IN MEN. BY M. CHARCOT. Translated From *Le Progrès Médical*, by H. McS. GAMBLE, M.D., Moorfield, West Va.

FIRST LECTURE. PART I.

Gentlemen: We shall to-day ask your attention to the subject of hysteria in men, and, the better to circumscribe the subject, we will consider male hysteria more particularly as it occurs in adults in the full strength of their age and maturity, that is to say in men from twenty to forty years old, and moreover we shall especially consider the intense, strongly accentuated form which corresponds to what is called in women the *grande hysterie* or hystero-epilepsy with mixed crises. If I have decided to take up this subject, which I have touched upon many times already, it is because we have at present in the clinical service a truly remarkable collection of patients, whom I shall be able to show you and to study with you. My object is, above all, to enable you to recognize, and, so to speak, to touch with the finger, the identity of the grand neurosis in the two sexes. For, in the comparison that we shall make as we progress of the symptoms of grand hysteria in women and in men, we shall everywhere discover the most striking analogies, and here and there only a few differences which, as you will see, are of an entirely secondary order.

Moreover, this question of hysteria in men is in some sort the order of the day. In France, of late years, it has greatly preoccupied physicians. From 1875 to 1880, there have been sustained before the Faculty of Paris five inaugural dissertations upon hysteria in men, and M. Klein, the author of one of these theses, made under the direction of Dr. Olivier, has succeeded in collecting eighty cases of this disease. Since then have appeared the important publications of M. Bourneville and his pupils, of MM. Debove, Raymond, Dreyfus and a few others; and all these works tend to prove, among other things, that cases of male hysteria may be met with quite frequently in ordinary practice. Very recently male hysteria has been studied in America by Drs. Putnam and Walton, principally as the result of traumatisms, and more especially of railroad accidents. They have recognized the fact, with Mr. Page, who has likewise investigated this question in England, that many of those nervous symptoms designated under the name of *Railway-Spine*, and which, in their opinion, should rather be called *Railway-Brain*, are, in point of fact, whether it concerns a man or woman, simply hysterical manifestations. You understand, at once, the interest which such a question assumes to the practical mind of our confrères of America. The victims of railroad accidents very naturally demand damages of the companies; the case is tried; thousands of dollars are in the balance. But, I repeat it, often it is hysteria that is concerned. Those grave and tenacious nervous states which are presented as following "*còllisions*" of this kind, and which render it impossible for the victims to return to their work or to resume their occupations for periods of several months, and even of several years, are often only hysteria, nothing but hysteria. Male hysteria is, then, worthy of being studied and understood by the medico-legist, since it is a question of large interests carried before a Court which will perhaps be impressed—a circumstance which will render the task more difficult—by the disfavor which still attaches to-day, by reason of profoundly rooted prejudices, to the word hysteria. A profound knowledge not only of the disease, but also of the conditions under which it is produced, will be, in such an event, so much the more useful, so that often the nervous disorders are produced outside of all traumatic lesion and simply in consequence of the psychical nervous disturbance which results from the accident, and that frequently they do not commence immediately after the accident; that is to say, that at the time when one of the victims of the collision, who has received a fracture of the leg, for example, will be already cured, after an incapacity for labor of three or four months, another will be under the influence of nervous disorders, which will perhaps prevent him from working for six months, a year, or more, but which will not perhaps have as yet attained their full intensity. You see in this case how delicate is the mission of the medico-legist, and it is this medico-legal aspect of the question which seems to have rehabilitated, among our American confrères, the study of hysterical neurosis, heretofore somewhat neglected.

In proportion as the disease has been thus better studied and better known, as usually happens under such circumstances, the cases have become, apparently, more and more frequent, and at the same time more easy of analysis. I just told you that four or five years ago M. Klein, in his thesis, had reported eighty cases of hysteria in men; we see to-day that M. Batault, who is preparing in our service a special work upon this subject, has succeeded in collecting 218 cases of the same nature, of which nine belong to our clinique.

Male hysteria is not, then, very rare—far from it. Well, gentlemen, if I may judge according to what I see every day among us, those cases are often misunderstood, even by very distinguished physicians. It is conceded that an effeminate young man may after excesses, disappointments, or profound emotions, present a few hysteriform phenomena; but that a vigorous, solid artisan, not enervated by culture, a fireman of a locomotive for example, by no means emotional before, at least in appearance, may in consequence of an accident to the train, of a collision, of a derailment, become hysterical, as well as a woman, is something, it seems, which exceeds imagination. Nothing is better proved, however, and this is an idea to which it will be necessary to get accustomed. That will come, as for so many other propositions which are to-day established in the minds of all as demonstrated truths, after having for a long time met with nothing but scepticism, and often ridicule.

There is a prejudice which doubtless contributes much towards raising an obstacle to the diffusion of knowledge relative to hysteria in man; it is the relatively false idea that persons generally form of the clinical tableau of this neurosis in woman. In the male, in fact, the disease often presents itself as an affection remarkable for the permanence and tenacity of the symptoms that characterize it. In the woman, on the contrary—and this is doubtless what seems to constitute the capital difference between the two sexes, for those who do not thoroughly understand the disease in women—what is *believed* to be the characteristic feature of hysteria is the instability, the mobility of the symptoms. In hysteria they say, then, resting naturally upon observations taken among women, the phenomena are mobile, fugacious, and the capricious march of the affection is frequently intercepted by the most unexpected *coups de théâtre.* Ah well, gentlemen, this mobility, this fugacity, is not, far from it, as I have shown you by numerous examples, a universal character of the hysterical malady even among women.

Yes, even in her there are hysterias with durable, permanent phenomena, extremely difficult to modify, and which resist sometimes all medical intervention. And the cases of this kind are numerous, very numerous, if it is true that they do not constitute the generality. This is a point to which I am going to return. But, for the moment, I am contented to remark simply that the permanence of the hysterical symptoms in man, and their tenacity, often prevent their being recognized for what they are. Some, in the presence of phenomena which resist all therapeutic modifiers, will believe, I suppose, if there exist sensorial disturbances with nervous crises simulating more or less the comitial crises, in a central organic lesion, in an intra-cranial neoplasm, or, if it concerns a paraplegia, in an organic spinal lesion. Others will readily admit or even affirm that there can be no question, in these cases, of an organic change, but simply of a dynamic lesion; but in the presence of symptoms whose tenacity does not agree with the schéma of hysteria which they have in mind, they will think that they are dealing with a special malady, not yet described, and which deserves a place to itself.

An error of this kind appears to have been committed by MM. Oppenheim and Thomsen, of Berlin, in a memoir which nevertheless contains a large number of interesting and well observed cases, if not always well interpreted, at least so I believe. These gentlemen have observed sensitive and sensorial hemianæstheses, similar in all points to that of hysterical subjects, in seven cases analogous to those of Drs. Putnam and Walton. It is a question in these cases of stokers, of conductors, of workmen, victims of railroad accidents or of other accidents, and who had suffered a blow upon the head, or a concussion or a general perturbation. Alcoholism and saturnism are not in the question in these cases, and it is admitted that, in all probability, among these subjects there exists no organic lesion. You see here, then, patients altogether similar to those of Drs. Putnam and Walton; but, contrary to these latter, the German authors are not willing to admit that there is any question of hysteria. For them it is something peculiar, I do not know what pathological state as yet undescribed, which demands a place not yet occupied in the nosological tables. The principal arguments that MM. Oppenheimer and Thomsen offer in support of their views are the following: 1st, the anæsthesia is tenacious; one does not here see those capricious changes which are *characteristic* (?) of hysteria. It continues such as it is for months and years. 2d. Another reason is that the psychical condition of the patients is not that of hysterical subjects. The troubles of this order, among these patients, do not possess the changing, mobile aspects of those of hysteria. The patients are rather depressed, melancholy in a permanent manner, and without any great variations either more or less.

It is impossible for me, gentlemen, to agree to the conclusions of MM. Oppenheim and Thomsen, and I hope to show you: 1st. That the hysterical, sensorial disorders may, in the woman herself, present a remarkable tenacity, and that in man such is very often the case; 2d. That in the male especially the depression and the melancholic tendency are most commonly observed in the most pronounced cases of hysteria, the least contestable. One does not commonly observe in him—that is true, but one could not certainly see in that a distinctive character of first importance—those caprices, those changes of character and of humor which belong more commonly, though not necessarily, however, to the hysteria of woman. But it is time, gentlemen, to stop these preliminaries, in order that we may come to the principal object of our lecture to-day. We are going to proceed by clinical demonstration, while studying together with some details a certain number of perfectly characteristic cases of hysteria in the male. We will take up, as we go along, the analogies and the differences which exist besween the hysterical phenomena observed in men and those we recognize every day in the corresponding form of the disease in women. Finally, I intend to offer you, in the form of a *résumé*, a few general considerations upon the grand hysteria considered in the male sex.

But before coming to man, I would like to remind you briefly, by two examples, of the degree to which in woman the permanent symptoms of hysteria, the hysterical stigmata, as we are accustomed to call them, for greater convenience, may show themselves fixed, tenacious, and exempt, consequently, from that proverbial mobility ascribed to them, and of which some pretend to make the characteristic of the disease. I shall not speak to you of the six or eight cases of grand hysteria at present collected in our service. Some of them have presented for months, or even for years, a simple or double hemianæsthesia that the most approved therapeutic modifiers can influence but for a few hours. I will confine myself to presenting to you two women, veritable veterans of hystero-epilepsy, who, delivered a few years ago from their grand attacks, and discharged since that time from the special department, perform the duties of servants in the hospital. The first, named L——, well known in the history of hystero-epilepsy and celebrated by reason of the "demoniac" character that her convulsive crises offered, is to-day 63 years old. She entered the Salpêtrière in 1846, and we have kept her under observation since 1871. At that time she was attacked, as she is still to-day, with an absolute, complete, sensorial and sensitive right hemianæsthesia, with ovaritis of the same side, which, during this long period of fifteen years, has not been modified, *even temporarily*, whether by the oft-tried action of æsthesiogenetic agents, or by the advance of age, or by the menopause. Five or six years ago, at the time when our attention was more particularly drawn to the modifications that the visual field undergoes in hysterical subjects, we recognized in her the strongly marked existence of the classical narrowing of the visual field, conspicuous on both sides, but more pronounced on the right. Examinations repeated once or twice every year since that time have never failed to show the permanence of this narrowing.

The other patient, named A———, now sixty-two years old, and in whom the grand attacks, replaced sometimes by symptoms of angina pectoris, have only ceased within the last twelve years, presented as far back as 1851, as a very valuable note dating from that time shows, a complete, absolute, sensorial and sensitive left hemianæsthesia, which, as you can verify, we find with her still to-day, that is to say, after a long period of thirty-four years! This patient has been under our observation for fifteen years, and never has the hemianæsthesia in question been absent at the time of our frequently repeated examinations. The double contraction of the visual field, very decided on both sides, but more pronounced on the left, which a campimetric examination has enabled us to find again recently, existed already in her five years ago.

This is enough, I think, to show you how, in these women, the stigmata of which no one would think of disputing the hysterical nature, have shown themselves stable and permanent, and how little that agrees with the idea, incorrect by reason of too much generalizing, that persons form usually of the evolution of the disease.

I come now to the study of our male hysterical subjects:

Case 1.—Rig——, store servant, 44 years of age, was admitted to Salpêtrière May 12, 1884, nearly a year ago. He is a tall, strong, well-muscled man; he was formerly a cooper and bore fatiguing labor without trouble. The *hereditary antecedents* of this patient are very remarkable. His *father* is still living; he is 76 years old. From thirty-eight to forty-four years of age, in consequence of disappointments and money losses, he suffered from *nervous attacks*, upon the nature of which the patient can but imperfectly inform us. His mother died at sixty-five years, asthmatic. The great-uncle of the mother was epileptic, and died from the effects of falling into the fire in a fit. The *two daughters of this uncle* were likewise epileptic. Rig—— has had seven brothers and sisters, who present no history of any nervous diseases. Four are dead; among the three living one sister is asthmatic. He himself has had nine children, of whom four died very young. Of the five who are still living, *a daughter fifteen years old has fits of nervousness; another, aged ten years, has attacks of hystero-epilepsy*, which M. Marie has even observed here; *another daughter is feeble minded;* finally, two boys present nothing special to note. About the *personal antecedents* we gather the following facts: At nineteen years, and at twenty-nine years of age, the patient was attacked with acute articular rheumatism, without any lesions of the heart. The last attack lasted six months, and it is perhaps to the rheumatism that must be attributed the deformities of the hands which are noticed in his case. When a child he was timid; sleep was disturbed by dreams and nightmares, and, besides, he was a somnambulist. He got up often in the night, worked, and the next morning was very much astonished to find his work done. This state of things continued from twelve to fifteen years. He married at twenty-eight years of age. We do not discover in the antecedents either syphilis or alcoholism, although the patient has been a cooper. He came to Paris at the age of thirty-two years, at first working for his father, then employed as a servant in a factory for the purification of oil.

In 1876, when thirty-two years old, he met with his first accident. He cut himself pretty deeply with a razor which he was sharpening, as some persons are accustomed to doing, upon the anterior aspect of the fore-arm. A vein was severed, the blood spurted; the hemorrhage and the fright helping, the patient fell to the ground devoid of feeling and motion. He was long in recovering, and remained two months profoundly anæmic, pale, and unable to work.

In 1882, consequently three years ago, he was letting down a cask of wine into a cellar, when the rope that held it broke; the barrel rolled down the stairway and would have inevitably crushed him if he had not had the time to spring to one side; he did not do so, however, far enough to avoid a slight wound on the left hand. In spite of the fright that he experienced, he was able to get up and assist in lifting the barrel. But five minutes afterwards he suffered a loss of consciousness which lasted twenty minutes. Upon coming to himself he was unable to walk, so weak were his legs; and they were obliged to take him home in a carriage. For two days it was absolutely impossible for him to work; at night his sleep was disturbed by frightful visions and interrupted by cries of "Help—I am being killed!" He saw again in his dreams the scene at the cellar. He had, nevertheless, resumed his work, when, *ten days after the accident,* in the middle of the night, he had *his first attack of hystero-epilepsy.* Since that time the attacks have returned nearly regularly every two months, and often during the interval; in the night, whether at the moment of the first nap, or upon waking, he has been profoundly troubled by visions of ferocious animals.

Formerly, upon recovering from his fits, he remembered what he had dreamed during the attack, a phenomenon which no longer exists to-day. He was in a dark forest, pursued by brigands or frightful animals, or the scene of the cellar was enacted before his eyes, and he saw casks rolling upon him and threatening to crush him. Never, he says, either during the attacks, or in the interval, has he had any dreams or hallucinations of a gay or agreeable character.

At this time he sought advice at St. Anne. He was ordered bromide of potassium, and this medication, mark well, has never had the least influence upon the attacks, although the remedy has been taken continuously, even to saturation.

It was under these conditions that Rig—— was admitted to the Salpêtriére, in the clinical service, and at the time of his entrance we observed the following condition:

The patient is pale and anæmic; he has but little appetite, especially for meat, to which he prefers acid dishes; in brief, the general state of the patient is unsatisfactory. The *hysterical stigmata* are very distinct in his case. They consist in a *double hemianæsthesia in plaques* of a very great extent, as to pain (pinching and pricking) and as to cold. Sensorial anæsthesia exists, in general, only to a very feeble degree; the taste and smell are normal; the hearing is, however, blunted in a pretty decided manner, especially on the left side; the patient does not hear any better when the sonorous object is applied to the head. As far as regards vision, the symptoms are much clearer, and would alone suffice, in a manner, to allow one to affirm the hysterical nature of the disease. There is present, in fact, on both sides a *notable contraction of the visual field*, but more accentuated on the right. He distinguishes all the colors, but the visual field of the blue has contracted more than that of the red, and has passed within this latter, a phenomenon, when met with, entirely characteristic, as far as I know, of the visual field of hysterical patients, and of which I have many times shown you examples. Finally, to finish with the permanent stigmata, Rig—— has two *hysterogenic points*, the one cutaneous, seated below the last, right false ribs, the other lower down, in the region of the popliteal space of the right side, a point at which the patient carries an extremely spontaneously painful cyst. There is no testicular point in R——. Pressure exercised upon the spasmogenic points, whether accidentally or voluntarily, gives rise in the patient to all the phenomena of the hysterical aura: præcordial pain, constriction of the neck, with the ball sensation, singing in the ears, and throbbing of the temples, these two latter phenomena constituting, as you know, the cephalic aura. These points, the excitation of which may provoke the attack with a singular facility, are, per contra, to use the terminology proposed by M. Pitres, only very feebly *spasmo-frénateurs*; that is to say, that the irexcitation, even when intense and prolonged, arrests but imperfectly the attack in process of evolution.

In the mental state of Rig——, to-day, as in the past, it is always anxiety, fear, sadness, which predominate. He cannot sleep in the dark; in broad daylight he does not like to be alone; he is excessively sensitive, and he experiences great fear at the sight or the recollection of certain animals, such as rats, mice, frogs, which, moreover, he often sees again in frightful nightmares, or in frequent hypnogogic hallucinations. He is always sad: "I am tired of myself," he says. With him a certain mobility of mind betrays itself from the fact that he cannot continue at anything, and that he undertakes and abandons with the same facility five or six occupations at the same time. He is intelligent and relatively well-informed. He is, besides, of a gentle, nature and totally devoid of bad instincts.

The attacks are spontaneous or provoked. Whatever may be the mode in which they have taken rise, they always commence by a lively sensation of burning at the level of the spasmogenic points, to which succeed at first epigastric pain, then the sensation of constriction of the neck and of the ball, and finally the cephalic aura, consisting in hissing in the ears and throbbing in the temples. At this moment the patient loses consciousness and, the *attack*, properly so called, commences. It is divided into *four periods*, well marked and well separated. In the first the patient exhibits a few epileptiform convulsions. Then comes the period of the grand motions of salutation, of an extreme violence, interrupted from time to time by an absolutely characteristic *arc de cercle*, showing itself sometimes forwards (emprosthotonos), sometimes backwards (opisthotonos), the feet and the head alone then touching the bed, and the body forming the bridge. During this time the patient raises savage cries. Then comes the third period, called the stage of emotional attitudes, during which he pronounces words and emits cries *en rapport* with the sombre delirium and the terrifying visions which pursue him. Sometimes it is the forest, wolves, frightful animals; sometimes it is the cellar, the stairway, the cask rolling upon him. He finally recovers consciousness, recognizes the persons who surround him, and names them; but the delirium and the hallucinations persist, however, for some time yet. He looks around him and under his bed for the horrible objects which threaten him; he examines his arms, thinking to find thereon the traces of the bites of animals, which he believes he has felt. Then he comes to himself, the attack is over, but to recur most generally a few moments later, until, after three or four successive attacks, the patient has at length completely recovered his normal state. Never, during the course of these fits, has he bitten his tongue, never has he urinated in the bed.

For nearly a year past R—— has been subjected to treatment by static electricity, which, in cases of this kind, often gives us, as you know, good results; we have prescribed for him at the same time all the tonics and reconstituants imaginable. And yet the phenomena that we have just described, permanent stigmata and attacks, persist just as they were, without appreciable change; they do not seem, briefly, although they have already nearly three years of existence, as if they were likely to be modified soon. It is a question here, however, you will all admit, of a case of hystero-epilepsy with mixed crises (epileptiform hysteria), as distinctly characteristic as possible; and it is very clear that the stability of the stigmata, upon which we have dwelt sufficiently, could not, among other things, arrest our diagnosis for a moment.

To finish with this case, so perfectly typical, I will mention a few more particulars which the clinical analysis has enabled you to recognize.

In the first place, I will notice especially the nervous heredity so strongly accentuated in his family: hysteria in the father, very likely, at least; great-uncle and cousins german of the mother epileptic; two daughters, one of whom is hysterical, the other hystero-epileptic. You will, gentlemen, frequently meet with these conditions of heredity in the hysterical man, more pronounced, perhaps, than in woman.

I will remind you, besides, how, in the case of our patient, the hysterical manifestations have been developed, following upon and by reason of an accident which threatened his life. The traumatism which was the consequence of it—and it is a question here, moreover, of an insignificant wound of the finger

—would it have sufficed, alone, to provoke the development of the nervous symptoms? That is possible, but I could not affirm it. The fact is, that, along with the traumatism, it is well to take account of one factor which, very probably, in the genesis of these symptoms, has played a rôle far more important than the wound itself. I mean the terror experienced by the patient at the moment of the accident, and which betrayed itself a little while afterwards by a loss of consciousness followed by a sort of transitory paresis of the lower limbs. This same psychical element is found again outside of traumatism in a few of the cases described by MM. Putnam, Walton, Page, Oppenheim, and Thomsen, and in which its influence, often predominant, could not be despised.

This same circumstance of the development of the hysterical phenomena, following upon and in consequence of a "shock," with or without traumatism, but where emotion has played a great part, you will find again, gentlemen, in the majority of the other patients who are now going to be presented to you.

SELECTIONS.

REPLACEMENT OF A LOST EYE.

The operation of transplanting an eye removed from a rabbit, or dog, into the human orbit, first suggested and performed by Dr. Chibret, in May, last year, has now been performed five times. In a recent paper (*Archives d' Ophthalmologie*, January—February, 1886) M. Terrier publishes the details of these operations,and gives the history of the only successful cases down to a later date than was possible when it was first published. In Chibret's case, the patient was a girl, aged seventeen, and the transplanted eye was that of a rabbit. All the cellular tissue was carefully dissected off the sclerotic, and the eye was retained in the capsule of Tenon by the conjunctiva being constricted round it by a ligature. The cornea ulcerated, and gave way on the fifteenth day, when the contents of the globe escaped. The sclerotic was left, and underwent cicatricial contraction. The antiseptic used was corrosive sublimate. The second case, by Terrier, was in a man, aged 30, in whom one eye had been lost by a recent injury. A rabbit's eye was used in this case also, but the cellular tissue on the sclerotic was preserved, as well as a circumcorneal ring of conjunctiva; the latter was stitched to the conjunctiva of the recipient by eight points of suture. The eye was washed in a warm solution of boracic acid, and Lister's antiseptic precautions were employed. Some entropion of the lower lid took place, and the cornea sloughed. The eye was removed on the fifth day. The third operation, by Rohmer, was on a woman, aged 42, in whom there was an old adherent staphyloma, with localized irido-cyclitis, and sympathetic irritation of the other eye. A dog's eye was used, the cellular tissue and conjunctiva being preserved as in the preceding case. Corrosive sublimate was used as an antiseptic. The cornea sloughed on the sixth day. Three months later the patient returned with a fresh attack of sympathetic irritation, and the shrunken stump which had been constantly suppurating, was removed. It was found to have contracted firm adhesions. The fourth case is the successful one already published by the operator, Bradford (*Boston Medical and Surgical Journal*, No. 12, 1885).* * * * The last published case is one performed by Terrier, on October 19, last year. The patient was a man, aged 66, in whom an unsuccessful cataract operation had been followed by severe ciliary neuralgia. The eye was enucleated, and a rabbit's eye introduced, and secured by sutures through the recti. Warm boracic acid solution was employed as an antiseptic. A troublesome entropion of the lower lid occurred, and caused ulceration of the cornea ; the latter sloughed, and the globe was excised on the nineteenth day, when it was found to have contracted firm and vascular adhesions to the capsule of Tenon. The feasibility of the operation may be considered as established, for not only was Bradford's case successful, but the fact that, in Terrier's two cases, firm and vascular adhesions had formed between the transplanted eye and the capsule of Tenon renders it probable that a successful issue would also have been obtained in them could the ulceration of the cornea have been prevented. The latter was, probably, in a great measure, due to the entropion of the lower lid ; and the occurrence of this might be prevented by modifying the details of the operation, and especially by adopting the expedient, since suggested by Terrier, of temporarily uniting the eyelids. From a physiological standpoint, the successful transplantation of so complex an organ from one animal to an individual belonging to a different species is of the greatest interest ; it may, however, well be doubted whether the operation will prove of any practical value. It is, indeed, difficult to see what advantage can be claimed for the transplanted eye over an artificial organ. The cosmetic effect of a well-fitting glass-eye would probably be far better, except, perhaps, in respect to the range of movement. The vitality of the organic eye would probably be low, and it would be liable to become inflamed from slight causes. We much doubt, moreover, whether many patients would give their consent to the eye of a rabbit or dog being constituted a part of their individuality. We should not have thought it necessary to point out the impossibility of the transplanted eye being of any functional use, had not the contrary been hinted at. Even if the retinal elements of the transplanted eye retained their power of responding to the stimulus of light, and the conductility of the optic nerve was restored when organic union took place, still, no useful vision could result unless the retinal elements of the transplanted eye, which corresponded to any given points in the visual field, became connected with the same fibres as those connected with the corresponding retinal elements in the excised eye ; this would necessitate an impossible similarity in the optical conditions, and in the number and arrangements of the retinal elements in the excised and transplanted eyes.—*British Med. Journal.*

PROFESSOR PASTEUR AND THE PREVENTION OF HYDROPHOBIA.

Not many months ago the profession and the public were startled by the announcement that M. Pasteur had carried the scientific speculation on the possibility of preventing hydrophobia in the human subject within the range of practical pathology and medicine. There were few then who added expectation to hope that the learned experimentalist would in so short a time make headway against the apparently insuperable difficulties of the situation. To-day, however, it may be truly said that the four corners of the earth are ringing with the record of his brilliant exploits and triumphal progress. People who have had the misfortune to suffer from the bite of dogs, cats, and wolves—mad or otherwise—are crowding to the metropolis of sunny France to undergo inoculation with the attenuated virus of rabies, prepared from the nerve centres of animals, recent victims of the deadly scourge. England, Russia, America, Hungary, and other countries, by the aid of State and private enterprise, are sending patients to M. Pasteur's laboratory for the purpose of testing the value of his "specific" treatment. Contrary to the dogmas of metaphysicians, who assert that there is always a hostility to new experience, we find votaries ready and numerous to stake the chances of failure, and even of danger, against the possible attainment of immunity from the consequences of an anticipated disease. Nor, considering the horribly grim event which none can contemplate with complacency or foretell with certainty, and the final result of which, when developed, it is doubtful if anyone has hitherto been able to avert, is it surprising that men should hasten to avail themselves of an antidote, be it rational or empirical, of merely vaunted repute or proved efficacy? There is something more, however, than humanitarian sentimentality involved in the consideration of M. Pasteur's enterprise—an enterprise destined to lead to one of the greatest achievements of the age, or to end at least in a splendid scientific failure. It must not be supposed, because the author of all this wonderment and admiration stands, as it might appear, upon the fitful tenure of the sufferance of those who look for much and hope for more, yet may nevertheless be as ready to condemn anon as they are now prepared implicitly to trust, that he has been led to deeds of daring by purely fortuitous circumstances. M. Pasteur's reputation, acquired as it has been by years of laborious research and keen logical inference, is a sufficient answer to such an assumption. Moreover, the past history of medicine furnishes analogical grounds for regarding the investigations now in progress as likely to succed in the long run. Hydrophobia, like small-pox, is a disease arising from the action of a specific poison, and we know what untold good has accrued from the discovery of our own Jenner. Vaccination, or in other words, inoculation with what is practically an attenuated virus, has established itself so firmly in the world's confidence that in most civilized nations it has become a State institution, and that too in spite of long-continued and strenuous opposition. Then, there are "many who believe that vaccinia is identical in its nature with variola, only modified by its occurrence in another animal, and there have been many observations and experiments which seem to support this notion" (Roberts). It is also known that if "an unvaccinated person inhale the germ of small-pox on a Monday and be vaccinated as late as on the following Wednesday, the vaccination will be in time to prevent small-pox being developed." This is exactly the principle which M. Pasteur is carrying out, and fortunately the long period of incubation of hydrophobia gives a wider limit to the chances of success from inoculation. Again, hydrophobia is only conveyed by direct contagion, so that the date of introduction of the poison into the system can be fixed with precision—an argument in favor of delaying the inoculation with attenuated virus until infection with the more deadly "cause" has become an accomplished fact. On the other hand, small-pox is almost invariably communicated through the atmosphere; and, as there are no immediate effects, the all-important period is not known, and the opportunity of saving the patient from the consequences of the infection is lost. In process of time it may become the fashion to inoculate with the mitigated virus in order to give protection against the possible bites of mad dogs, but at present there seems little likelihood of this practice being established, nor, on the whole, is it desirable. That inoculation for rabies is founded on a scientific basis, there seems no shadow of a doubt. It only remains to be seen whether M. Pasteur can establish as an art what appears as a very plausible theory. Of this we may be sure that, guided by the light of his experiences with inoculation as a preventive against splenic fever in cattle, he will avail himself of every assistance that is likely to bring his task to a successful issue. The public and the profession must be prepared for failures, and not expect more than can reasonably be demanded. For the present we trust that M. Pasteur will receive every encouragement that the State and individuals can render. The enterprise in the interests of humanity is worthy the man, and M. Pasteur is perhaps of all men most fitted to carry it out.—*Lancet.*

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* See GAILLARD'S MEDICAL JOURNAL for December, 1885, page 669.

TRANSMISSION OF TUBERCULOSIS.

Dr. Didama, of Syracuse, New York, has lately brought together and collated the opinions of the most eminent pathologists on the vexed question, as to whether tuberculosis is inherited as such, or whether it is transmitted and acquired subsequently to birth. It is urged (Klein) that since tuberculosis is a tissue disease, and not a disease of the blood, it is very probably transmitted by the semen or from the ovum; and Ziegler thinks it possible for the bacilli to pass from a tuberculous parent directly to the fœtus *in utero,* although the latter observer admits that no evidence of this is forthcoming. Opinions are very divided as to the identity of the bacilli in the tuberculosis of animals and that of man. It is urged, on the one hand, that the bacillus in the affection as seen in animals is smaller than that found in human beings, and that its location, development, and appearance are different; but Cheyne considers them to be identical, and infers therefrom that as tubercles are often found in the bovine fœtus in embryo, a similar contamination may take place in the human fœtus. Other observers, however, deny that a single well-authenticated case of tuberculosis in the human embryo has ever been found, and maintain that the specific disease cannot be inherited. The most that a tuberculous parent can do, according to this view, is to transmit tissues with enfeebled powers of resistance, the development or not of tubercle being dependent on the subsequent environment of the child. According to some statistics published by Walshe, years ago, of the family history of patients at the Brompton Hospital, only 26 per cent. had tuberculous parents. Could the parents of the remaining 74 per cent. have transmitted to their children a disease which they themselves did not possess? Is not the observation of Dr. Lambert more to the point when, alluding to his experience as medical adviser to an insurance company, he says: "men who are poorly nourished, men whose weight is not in proportion to their height, die of consumption much more rapidly than those who have a better nourishment, irrespectively of the fact of consumption appearing as a factor in their family history?"

A mysterious tendency, which is always fruitless without bacilli, is unnecessary to account for any of the facts of phthisis, and there is no good reason for believing that it exists. That the children of tuberculous parents become more uniformly tuberculous themselves than is the case with the children equally weak constitutionally, of drunken or syphilitic parents, is easily accounted for by their infective surroundings. That the weakly babe in the arms, sucking the impoverished, if not poisonous, milk of a diseased mother, should more readily become phthisical, is only what one would anticipate; and the same causes are at work throughout its home-life.

Dr. Didama's conclusions are, that tuberculosis is not, and cannot be, inherited, nor can any special tendency or diathesis be so transmitted. Bad hygienic conditions favor the taking and development of the disease, especially in persons of low vitality; but there must be abundance of bacilli and deficient powers of resistance for infection to take place. The treatment based on these assumptions would be to remove the children of tuberculous parents from their vitiated surroundings, and place them under conditions favorable to a healthy physical constitution; while, if there be any syphilitic taint, prolonged specific treatment should be resorted to, not only to remove the existing inherited disease, but to strengthen against tuberculosis, which is liable and likely to be superadded—*Lancet.*

ASSIMILATION OF NITROGEN IN DEBOVE'S "CRAMMING" METHOD.

Dr M. G. Kurloff, of St. Petersburg, has published a series of observations undertaken with the view of discovering the chemical changes consequent upon the employment of Debove's "cramming" or "forced feeding" system in phthisical patients. He made six experiments on five patients, who previously to the "cramming" were losing weight, with bad appetites, diarrhœa, pyrexia, and cough, with sputum containing Koch's bacilli. The "cramming," which in some cases was carried out by means of a stomach-tube, as practiced by Debove, and in some without, as has been recently recommended by Peiper, lasted for from three to eleven days, during which period careful estimations were made of the nitrogen excreted in the urine and fæces, similar determinations being made during the three days preceding and the three days following the treatment. The quantity and nature of the food were also noted; and from these data and from various analyses of food made on purpose, the quantity of nitrogen ingested and excreted was determined, and the amount assimilated calculated by subtracting the latter from the former. The material used in the "cramming" process consisted of pulverized meat, from which all the liquid portion had been previously expressed in the manufacture of meat juice, mixed with milk so as to form a drink of somewhat greater consistence than ordinary chocolate. Of this mixture 700 cubic centimetres were given at a time, some 400 grammes of the meat powder being thus introduced into the stomach during the day. It was calculated that this contained as much nitrogen as 3⅓ lb. of fresh meat. The patients were, however, not confined to the mixture, but were encouraged to supplement it with milk, bread, and biscuits. The mean daily nitrogen ingested was about 54 grammes, which is as much as is contained in 1,600 grammes (3½ lb.), the maximum being as much as 80 grammes, corresponding to 2,400 grammes (5⅓ lb.) of fresh meat. The effect of this huge quantity of nitrogen was to increase the breaking down of the albuminous constituents of the body, as shown by the increased excretion of nitrogen in the urine, which averaged about 34 grammes, the maximum being 56 grammes; whereas, previous to the "cramming," it had only ranged from 9 to 16 grammes. An increase also occurred in the percentage of ingested nitrogen which was assimilated, and a much more marked increase in the assimilated nitrogen relatively to the body-weight. Taking one instance, the percentage assimilation was before, during, and after the "cramming" 84.9, 92.7, and 82.6 respectively, and the mean assimilation, expressed in grammes per kilogramme body-weight, was for the same three periods 0.24, 0.89, and 0.29. Thus, during the "cramming" the nitrogen assimilated increased more than threefold, and was slightly more afterwards than previously. Even after the short period during which the treatment was continued, which was undertaken more for experimental than for curative purposes, the patients' appetites increased remarkably; they not only ate the whole of the ordinary hospital ration, but asked for more, though previously they had left a considerable portion of their food. The body-weight also increased nearly 1 lb. a day, the increase continuing even after the special feeding was discontinued. Altogether, Dr. Kurloff fully confirms the results Dr. Debove and others have obtained by this method of treating consumptives. The cough and expectoration diminished, the diarrhœa and night-sweats ceased, and the patients felt a great deal better, so that some of them left the hospital and returned to their respective employments.—*Lancet.*

ANTISEPTIC IRRIGATION OF THE KNEE-JOINT.

Dr. Robert F. Weir recently read a paper before the Medical Society of the State of New York, in which he related seven cases in which he had treated chronic effusions in the knee-joint by antiseptic irrigation. As Dr. Weir is careful to point out, this treatment was introduced by Schede in 1875, and since then has been practised by many surgeons, especially in Germany; but, judging from the teaching of English surgical text-books and periodical literature, it has not won its way in this country, and Dr. Weir says the same for America. It may therefore be well to draw attention to this plan of treating an obstinate and serious affection. The cases for which it is suggested are those of sub-acute and chronic serous synovitis, which resist the usual methods of treatment—rest, counter-irritation, absorbents, and pressure. It is not proposed that all cases of synovitis should be treated in this manner, but that a careful selection should be made. The treatment consists in tapping the joint with a trocar about the size generally used for hydrocele, and then, when all the fluid has escaped through the tube, a quantity of carbolic acid solution (5 per cent.) is injected through the cannula, and allowed to flow out. This is repeated until the fluid returns from the joint quite clear and free from flakes, and then the cannula is withdrawn, and the puncture closed by a pledget of boric lint, over which an abundant antiseptic dressing is fixed. In performing this simple operation it is well not to admit air to the joint; this can usually be prevented by carefully adjusting the pressure of the hand; an antiseptic spray may be employed to play over the cannula as an additional safeguard. After the operation the limb should be fixed upon a back splint or in a plaster-of-Paris case. As a rule the pain and reaction afterwards are slight, and quickly subside, and all dressings can be removed in the second week, and the patient gradually brings his joint into use again. The synovial membrane can usually be felt to be markedly thickened, but the joint is otherwise sound. Dr. Weir reports seven cases which he had treated in this way, and refers to thirty-two others which he has found recorded by other surgeons. Volkmann is stated to have treated hundreds of cases by this method, without a serious complication in any case. Such a sweeping and vague statement is, however, of little scientific value, and will certainly fail to recommend the method to judicious surgeons.

Putting aside such statements as this of Volkmann's, the evidence before us certainly warrants a careful trial of this method in suitable cases. Our resources in such cases have not hitherto been great. Where rest, counter-irritation, compression, and the use of absorbents have all failed, three courses have been chiefly practised—aspiration, injection, and drainage. Aspiration is sometimes successful, but is by no means reliable; often it fails to remove the whole secretion, and, whether from this cause or not, reaccumulation of the fluid only too commonly follows. Injection of the joint with iodine—as for the radical cure of hydrocele—has long been advocated, but is not now largely used in this country; experience has shown that it is not free from risk, and that suppuration may ensue. Antiseptic drainage of the joint, on the other hand, has been attended with good results, but it must be regarded as a severe measure. Should the precautions taken fail in their aim, a violent suppurative inflammation may be lighted up, imperilling the joint, the limb, and the patient's life itself. Compared with it, antiseptic irrigation of the joint is certainly a milder measure, is attended with less danger does not require such complete acquaintance with the details of asceptic surgery, and when successful restores the patient to activity in a much shorter time than antiseptic drainage. On many grounds it commends itself, and if further experience corroborates the opinions already expressed upon it, we shall have acquired a very useful addition to our means of dealing with a very troublesome affection.—*Lancet.*

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

THE TREATMENT OF ACUTE RHEUMATISM.—In the third of his Croonian lectures on "Some Points in the Pathology of Rheumatism, Gout, and Diabetes," delivered at the Royal College of Physicians of London, April, 1866, Professor P. W. Latham, of Cambridge, says: In gout, uncomplicated with contracted kidney or albuminuria, salicylic acid is often of service. But it is in acute rheumatism that it shows its special power, acting truly, when properly administered, as a distinct specific. Here is a disorder which under different treatment may exist for weeks stationary, so to speak, in its intensity, the great heat and nervous and vascular excitement and pain and swelling being exactly of the same amount to-day as they were weeks ago; a disorder which less than fifty years since was said to be "often such in itself and such in its appalling incidents as to need from time to time that medicine should put forth the full compass of all its powers. Every organ or system of organs which either directly or indirectly can receive the impression of remedies are from time called to bear all that they can possibly endure; and it is often only when the powers of medicine are pressed even to the verge of destroying life that life is saved." And now, with or without the administration of a purgative, as the occasion requires, the patient is placed fully under the influence of salicylic acid, and in from forty to sixty hours, not unfrequently in a shorter time, the pains in the joints have subsided, the limbs can be freely moved, and the bodily temperature has reached the normal condition. But more than this—and here the remedy shows its signal power—in no case of rheumatism that has come under my care during the last six years, either in hospital or private practice, has there been, where the heart was previously sound, any cardiac complication, such as endocarditis or pericarditis, developed. If this can be maintained and ensured, we have, indeed, in our hands a most potent remedy. Cardiac complications constitute the chief danger of acute rheumatism, and the danger, if the disease is taken in hand soon enough, may with our new remedy be averted. But certain conditions must be observed to ensure success in the administration of the remedy. They are as follows:

1. The true salicylic acid obtained from the vegetable kingdom must alone be employed. If you have to give large doses, avoid giving the artificial product obtained from carbolic acid, however much it may have been dialysed and purified. An impure acid will very quickly produce symptoms closely resembling delirium tremens.

2. Give the acid without any alkaloid or base. A very good form is to mix 100 grains with 15 grains of acacia powder and a little mucilage. Allow the mass to stand and harden, and then divide into thirty pills.

3. Place the patient fully under the influence of the drug—that is, let him have sufficient to produce cerebral disturbance—i. e., buzzing in the ears or headache or slight deafness ; with the development of these symptoms the temperature and the pain in the joints will begin to decline. To an adult I generally administer three doses of 20 grains (six pills) at intervals of an hour, and, if the head remains unaffected, a fourth dose at the end of another hour ; and then repeat the 20 grains every four hours until the physiological effect of the remedy shows itself. In the majority of cases from 80 to 100 grains are enough. In severe cases 140 to 150 grains may be required. Afterwards about 80 grains a day are sufficient, and as the temperature declines smaller quantities will develop their physiological effects, 60, or even 50 grains, being then sufficient to produce cerebral disturbance. It would appear that, as long as the rheumatic poison is circulating in the system, the physiological effect—that is, the effect it produces in the healthy organism—does not show itself; acting as an antidote, the greater the amount of poison, the larger must be the dose of the remedy ; but as soon as the formation of the *materies morbi* is stopped, then the excess of the remedy acts as it would in the healthy organism, and its peculiar physiological effects are developed. It is a very striking illustration of the difference between the therapeutic effect of a remedy and its physiological action.

4. Give the patient from 40 to 80 grains daily for ten days after all pain and pyrexia have passed away.

5. Let the patient's diet consist entirely of milk and farinaceous food for at least a week after the evening temperature has been normal. On the other hand, if the patient has meat and soup, you may look forward with fair probability to a relapse.

6. Take care to maintain a daily and complete action of the bowels. Calomel is the best purgative, from 2 to 5 grains at night, followed in the morning, if necessary, with a saline draught. This is the most important adjuvant to the action of salicylic acid, and I will presently explain to you why this is the case.

7. Let the patient be enveloped in a light blanket, and with no more bedclothes than are sufficient to keep him from feeling cold. The object of the treatment now is to cool the patient—not, as in former times, to sweat the poison out of him ; and the cooler he is kept the sooner will the temperature be lowered. In fever increased heat increases the metabolism, just as in a cold-blooded animal.

These are the seven rules upon which I act. I have given the true salicylic acid where there has been both aortic and mitral mischief; and I have also given it in rheumatism complicated with pericarditis, and as yet I have seen no bad result from it. Of course in cases of pericarditis, accompanied with delirium, the use of the remedy requires caution ; you cannot tell when the system is saturated with the remedy, and you must therefore trust to smaller doses and other means for controlling the disease. Further, if pericarditis or endocarditis, pneumonia or pleurisy, have been developed, the remedy is powerless over the mischief which is done; it will neutralize the poison producing the mischief so as to stop its extension, but the inflammatory exudations will undergo their usual changes unabbreviated in their course. We see the same thing in tonsillitis. Given early enough, salicylic acid will stop the mischief, but if exudation of lymph has taken place, salicylic acid is powerless to cause its absorption.

I have referred to the necessity of keeping up daily and sufficient action of the bowels. The benefits resulting generally, in rheumatism, from the so-called purgative plan of treatment have always been recognized by the older physicians as striking and satisfactory. By the judicious use of cholagogue purgatives we eliminate the bile from the intestines, and so remove from the system a quantity of glycocine, which if re-absorbed would lead to the consequent formation of uric acid. Calomel is unquestionably of service here. Doubts may exist as to whether it promotes the flow of bile from the liver or not ; but when the bile gets into the intestine calomel will cause its evacuation. "The conclusion seems inevitable that mercurial purgatives given to healthy persons cause the escape of large quantities of bile from the alimentary canal."* Referring to the three modes of treatment—by venesection, by opium, and by purgatives—which were in vogue at the time, Dr. P. M. Latham says with regard to the last : "As this plan of treatment works prosperously day after day in its immediate effects, so day after day it gives an earnest of the remedial impression it is exercising upon the whole disease. It abates the fever, it softens the pulse, it reduces the swelling, and it lessens the pain. In short, it subdues the vascular system like a bleeding, and pacifies the nervous system like an opiate ; and often in the course of a week the acute rheumatism is gone. In three days there is often a signal mitigation of all the symptoms ; and in a week I have often seen patients who have been carried helpless into the hospital, and shrieking at the least jar or touch or movement of their limbs, risen from their beds, and walking about the ward quite free from pain.

"Of this plan, often so striking in its operation, and often so satisfactory in its results, I have some further remarks to make. It is called the purgative plan ; yet its purpose is achieved by calomel and purgatives conjointly. The purgatives would not answer the end without the calomel—of that I am quite certain ; neither would the calomel answer without the purgatives, unless it produced of itself ample evacuations from the bowels. It is probable, in short, the remedial efficacy of the plan resides essentially in the calomel ; in calomel, however, not as *mercury*, but as itself—*calomel*. If the specific effect of mercury—salivation—arise, it is not only beside our purpose and against our wish, but it begets a serious hindrance to the use of calomel in sufficient quantity for the end in view. Thus the whole plan is frustrated. Having begun one plan of treatment, we are obliged to take up with another. Time is lost, the case is perplexed, the disease is prolonged, and the patient perhaps injured. * * * Now, if, in the treatment of acute rheumatism, you were to choose one indication and abide by it, and were to trust to one class of remedies and to it only, you would find more cases that admit of a readier cure by the method now described than by either of the former two. You would find the aggregate of morbid actions and sufferings, which constitute the disease, more surely reached and counteracted and more quickly abolished by medicines operating upon the abdominal viscera only than by those which influence either the blood-vessels only or the nerves only. You would find in calomel and purgatives a better remedy than in either venesection or in opium."

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*H. C. Wood, Jr.

The diet is another important point to be attended to in the treatment both of gout and rheumatism. It should be simple and nutritious ; jellies and food containing gelatine should be avoided, as this substance furnishes glycocine. Animal food will not itself produce uric acid in a healthy system, as is shown by its absence in the urine of the carnivora ; but from all kinds of meat a certain amount of glycocine will be produced, and even if all the rest of the nitrogenous portion after being absorbed into the system were converted into urea, this would necessitate an increased elimination of urea, and consequently a greater tax on the powers of the kidneys. If these powers are weakened, there will be, with an increased call upon the organs, less power to act, and not only the urea, but, still more, the uric acid, would accumulate in the blood. The striking benefit and increased urinary secretion which result in some forms of albuminuria from a skim-milk diet—that is, the simplest of all diets—very well illustrate what I mean here. The presence of urea in the blood may, by its action on the nerve-centres, determine an increased blood-supply to the kidneys, and so, in a healthy state of things, an increased secretion ; but if the secretory portion is damaged, or the nerve force controlling it defective, an increased flow of blood to the part, producing a congested condition of the organ, would not expedite ; it would rather hinder, the work of the secretory portion. The simpler the diet, then, the less tax there will be upon the kidneys, and the better they will do their work. Let the diet be chiefly farinaceous, with just sufficient nitrogenous food to satisfy the wants of the system—and in acute attacks let that be in the form of milk, diluted, even, if necessary.

ABSTRACTS.

PUERPERAL FEVER AND THE EARLY EMPLOYMENT OF ANTISEPTIC VAGINAL INJECTIONS (Abstract of a paper read before the American Medical Association at St. Louis, May 5, 1886, by Dr. E. Gustave Zinke, Cincinnati, Ohio).—This paper considered chiefly the value and necessity of antiseptic or simply warm-water injections, as recommended for prophylactic purposes in normal cases of labor in private practice. It dwelt largely, also, upon the differential diagnosis between puerperal septicæmia and remittent fever following parturition. The paper was based upon a case in the doctor's practice, of which the following is a brief report :

Mrs. ———, American, æt. 26, suffered a miscarriage at the end of the eighth callender month. The labor was entirely normal, as was also gestation up to the miscarriage. The placenta came away spontaneously and after only a few moments. The external genitalia were washed, but no antiseptic washes used. All went well till the third day, when the patient had a chill, followed by a temperature of 106°. She experienced, however, scarcely any pain, and the lochia were free from odor. Two hours later she had another chill and the temperature went up to 107.5°. Professor Palmer was called in consultation. He thought the high temperature due to something in the uterine cavity, but Dr. Zinke did not think this possible from the nature of the labor. It was determined to await the action of quinine before washing out the uterine cavity. Later carbolized warm-water injections and turpentine stupes were added to the treatment ; temperature fell to 101°, then arose to 103° ; only slight tenderness in the hypogastric region and the lochia free from odor. When the temperature reached 104.5° the uterine cavity was washed out with warm carbolized water,the reflex uterine catheter being used .This was followed by some pain, but there was no decline in the temperature ; neither was there a removal of anything which might be the cause of the trouble. The temperature fell later under the use of tr. veratreum virid and salicylate of soda. Comparing the local manifestations with the range of temperature, the doctor became more and more convinced that the malady was not local in character. Was it typhoid or remittent fever ? Diarrhœa, rose spots, and stupor were absent. The husband then stated that about a month before her confinement she had complained of languor and chilliness. Was it then remittent ? In all probability, yes. His consultant did not concur with him. Seventeen days after confinement the temperature was 99.5°. Next day 101.4° and still rising. The next day, the doctor's orders not being followed, he retired from the case. Subsequent to this she was only part of the time under the care of a physician, and no record of the temperature was kept. The patient recovered after a sickness of two months' duration.

The questions which present themselves for consideration are : 1. Was this a case of puerperal septicæmia, remittent fever, or something else ? 2. Could it have been avoided by the early use of antiseptic vaginal injections ? 3. To what extent is the use of antiseptics, scientifically and practically, justifiable or necessary ? The doctor did not believe this to be septic, but if so, thought it to have entered through another channel than the parturient canal. Puerperal fever, he thought, should embrace only those diseases which occur during the puerperal state. He was satisfied that all cases of puerperal fever which find their inception through the obstetric channel from an external cause may, to some extent, be mitigated or prevented by the early and frequent use of antiseptic vaginal injections. Scarlatia,-measles, diphthera, etc., find their way through other avenues and often mislead the physiiian. Antisepsis in normal labor ought not to mean anything except ordnary cleanliness in every respect, the avoidance of frequent examinations and unnecessary aids, and needless exposure in the support of the perineum, the tying of the cord, the delivery of the placenta, and the washing after labor. Washing out the vagina immediately after normal labor, he thought, should be termed meddlesome midwifery ; did no benefit, prevented nothing, and might do harm. In prolonged or instrumental delivery, if the hand has been introduced or if injuries have been sustained, vaginal injections are always, uterine injections rarely, indicated. The essayist referred to a death after vaginal injections in the practice of Dr. J. C. Cleveland, of Cincinnati, to the writings of Drs. Bartlett and Lydston, unfavorable to the routine injection, and related three cases which occurred in his own practice in which ill effects were observed after vaginal injections most carefully performed. Out of nearly 400 cases of labor attended by the essayist, the case reported was the only one which could be suspected of being puerperal fever. From the favorable action of quinine on this patient until her refusal to take it, from her previous history and the impossibility of there being any remains of the placenta, etc., in the womb, the doctor was lead to believe this to be a case of remittent fever.

THE TREATMENT OF CANCER OF THE UTERUS (Dr. W. Baker, in *Boston Med. & Surg. Jour.*).—The patient being etherized and placed in the Sims position, the cervix is seized with the volsellum forceps and dragged down as nearly to the outlet as possible. This not only facilitates manipulations, but diminishes, in fact almost entirely checks, the hemorrhage, which otherwise may be alarming. The portio vaginalis is then cut into anteriorly with the scissors, and the supravaginal cervix anteriorly is separated from the bladder with the scissors, aided by the forefinger in tearing the tissues. This part of the operation is similar to Schroeder's for the removal of the uterus by the vagina. The same incision is then made into the vagina posteriorly, and the supravaginal cervix separated from the peritoneum up to the level of the internal os uteri. Thus it will be seen that the peritoneum is not purposely opened in an uncomplicated case, as is done by Schroeder's method. But the peritoneum is closely attached to the uterus at the level of the internal os, and it may accidentally be cut into, which has been my experience in two instances. The anterior and posterior incisions being now connected by lateral ones, and the supravaginal cervix separated on the sides in the same manner as was done in front and behind, the uterotome is to be substituted for the scissors, and a funnel-shaped portion of the body of the uterus cut out. This step of the operation is like Sims', with the exception that here it is possible to remove more of the body of the uterus, because here the base of the cone removed starts from the level of the internal os uteri, at the junction of the peritoneum to the body of the uterus, both before and behind, and the apex of the cone removed extends nearly or quite to the fundus of the uterus, whereas, following Sims' method, the base of the cone starts from the level of attachment of the vagina to the cervix, and a portion of the supravaginal cervix, and more of the body of the uterus must be left. It is thus possible to remove the entire cervix, both infra- and supra-vaginal, and at the same time nearly or quite one-half of the body of the uterus, and that the most important half; for cancer of the body of the uterus, whether of primary origin or of extension from the cervix, affects the glandular structure first, and by the method I have described this, its natural habitat, is removed or destroyed. It is in the connective tissues which so predominate in the cervix that the disease there develops so readily, and this, it has been seen, is entirely removed. The actual cautery, at a red heat, is then applied to the whole denuded surface. This part of the operation takes considerable time; for, as the traction is relaxed, there is likely to be more or less hemorrhage, and it often requires much patience to apply the cautery thoroughly enough to each and every bleeding point to feel secure in putting the patient to bed without tampon or other dressing to control hemorrhage. It is possible to accomplish this, however, and it is a very great gain in the subsequent treatment of the patient. The operation can seldom be done in less than half an hour, and will frequently require from three-quarters of an hour to an hour. So long as the disease has not touched the rectum, we may still hope to remove it entirely, as I have done in several instances, even though it has implicated the whole thickness of the vaginal membrane and sub-mucous tissue, quite to the peritoneum posteriorly over a large surface. The operation must differ from that just described, in that the incision into the vagina posteriorly must be made a full quarter of an inch beyond the line of any infiltration, and extend quite through into the peritoneal cavity, removing the whole of the upper vagina with the supravaginal cervix. Before applying the cautery, the edge of the healthy vagina should be stitched with silver sutures to the lower part of the posterior wall of the uterus. So, too, if the anterior vaginal membrane be implicated in the disease, it may be dissected off the bladder. If the base of the bladder itself even be affected, so long as the ureters are not involved, we may cut away a large part of it, if we can thereby remove the entire disease, closing the fistula thus formed with silver wire before using the cautery.

The advantages claimed for this method of operating are:

First, That by it we are able to remove more of the uterus than by any other form of high amputation.

Second, The opening of the peritoneal cavity is not necessarily involved in its performance.

Third, The practicability of using the touch in determining the extent of the disease, as the operation proceeds, is retained; which cannot be practiced when the galvano-caustic wire is used.

Fourth, All the advantages of the galvano-cautery are retained by the application of the thermo-cautery at a red heat, to all the denuded surface, and made more effectual, even, by previously being sure that the disease as evidenced by the touch had been removed.

Fifth, It is more practicable for the general surgeon than total extirpation.

Sixth, The length of respite from the disease is greater than in any reported cases of total extirpation, and the percentage of recoveries from the operation greater than by any other method of high amputation.

MICROSCOPY AND PATHOLOGY.

SOME POINTS IN BACTERIOLOGY. BY JAMES T. WHITTAKER, M.D., CINCINNATI, Professor of the Practice of Medicine in the Medical College of Ohio.

(Abstract of the address in medicine delivered before the American Medical Association at St. Louis, May 6, 1886.)

The history of medicine was divided into three planes—study of the symptoms, observations of the effects or lesions, and investigations into the cause of disease. He discussed successively spontaneous generation, the mutability or immutability of the forms of pathogenic micro-germs, the hay and milzbrand bacillus, the bacteria of milk, the occurrence of certain durations, the essentialness of the germ, not the form, ubiquitous and indigenous germs, the morphology and distinction of bacteria, the formation of zooglea, pure culture soils, the effect of bacteria on food, the bacteria of urine, the fecundity of micro-organisms, spore formation, the bacteria of the alimentary canal, the effect upon the tissues, and the production of neoplasms by bacilli.

The bacilli of tubercle, leprosy, syphilis, and glanders, produce in the soil of their selection granulation tumors and neoplasms characterized by a tendency to rapid dissolution by fatty or calcareous degeneration. The cellular element of these tumors resembles that of the lymph glands. Taking tubercle as a sample, they are round cells of various sizes, the medium resembling a white blood corpuscle, with small, round, shining nuclei, provided with nucleoli. The large cells contain two, even up to twelve nuclei. Accumulations of these cells constitute the nodule which the old anatomists named tubercles.

A tuberculous mass on schematic section shows an outside ring of round cells, provided with a single nucleus around a narrow ring of epitheliod cells, which finally enclose one or more giant cells. The bacilli of tuberculosis are found in all parts of the tuberculous mass, free—that is, between the cells, as well as in the interior of the cells.

But the most characteristic, as well as curious, phenomena is presented in the behavior of the bacillus in giant cells, a question which brings the subject to its most intimate ultimate relations. The giant cell, as is well known, is distinguished by the number of its nuclei, as well as its size. When now but a single bacillus penetrates to the interior of a giant cell, whose nuclei are disposed about the circumference of the cell, it is commonly found in the free space at or near the middle of the cell. But it is more common to find all the nuclei grouped together at one end, with the bacillus at the opposite, often at the extreme opposite end of the cell. The poles of the cell are thus occupied, one by the nuclei, the other by the bacillus. Thus they stand facing each other like foes, and it is impossible to resist the conclusion that there exists between them an antagonism which keeps them as far as possible apart.

When two bacilli are present, it is not unusual to find one at each end or pole of the cell, while the nuclei are all grouped about the centre or equator; or, the relations being changed, the bacilli are disposed at the equator, while the nuclei are grouped at the poles. It looks, Mittenzweig says, as if each group of nuclei was holding a bacillus in check. When the number of bacilli is greater, they do not long remain in this passive state. For they are soon to be seen at different places in the cell, close to and between the nuclei, with their long axes perpendicular to the surface of the cell. The wall of the nucleus is thus broken down, and the giant cell succumbs. Groups of bacilli are thus found arranged in stellate form, but no longer surrounded with nuclei.

Koch concludes, hence, that the penetration of an epithelial cell by one or more bacilli is the first step or stage in the origin of tubercle. The virus or poison emanating from the bacillus irritates the cell to such a degree as to lead to increase of its size and multiplication of its nuclei—in other words, directly to produce the giant cell. The irritation extends to neighboring cells to induce hyperplasia, and to vessels to lead to emigration of the white blood corpuscles. Meantime the struggle continues in the giant cell, to end occasionally in the destruction of the bacillus, but far more frequently in the triumph of the germ. They then break through the circle of the nuclei, escape from the wall of the cell to attack new cells with similar fate. The ruptured cell suffers necrosis, the plasma current ceases, plasma and nuclei coagulate, nuclei are broken up into débris, and the whole cell is converted into a homogeneous inert mass. The condition may be arrested at this stage, as in the spleen, or may, as is usual elsewhere, suffer a later conversion into caseous matter. Bacilli which have not escaped to other cells perish with the death of the cells, their hosts. Syphilitic neoplasms show the same phenomena, except that they are more prone to undergo fatty degeneration, resorption, and cicatrization (Mittenzweig).

The conduct of bacteria in the blood current itself, or their effect or action upon the element of the blood, is little known. In most cases the stay is too short for any permanent effect. But one curious observation has been made by Metschinkoff concerning the bacilli of the milzbrand and the white blood corpuscles, which throws light on the subject of susceptibility and immunity of disease. With suspicion based upon the fact of the absorption of food and foreign bodies into the interior of the amœboid bodies by protoplasmic protrusions and inclusions, and more especially upon the observation of a disease in small crustacea caused by the entrance or ingestion of a peculiar sprosepilz into the colorless blood corpuscles of the animal, Metschinkoff concluded to study the relations of the milzbrand bacillus to the white blood corpuscles of vertebrate animals. He soon discovered that the blood corpuscles of susceptible animals (rodents) only exceptionally incorporated virulent bacilli, whereas the blood corpuscles of insusceptible animals (frogs, lizards,) took them up abundantly. Being thus ingested or included, they soon perish in the interior of the cell, to finally disappear. The same fate awaits the milzbrand bacilli in the bodies of susceptible animals when their virulence has been attenuated or abstracted in any way, as by artificial heat.

He further considered immunity conferred by an attack of disease against its repetition, as well as protective vaccination. Also the incorporation and absorption of non-virulent or less virulent germs tend to support the theory of accommodation. The next question discussed was, How do pathogenic microorganisms produce the phenomena of disease ?

Lastly, the author took up the subject of ptomaines, and cited a large number of experiments as samples, to show the direction of research in the hands of the most advanced observers in the past year. They indicate, he said, the lines of study by means of which we shall be able to combat the cause of infectious disease in a direct way. They show us that the time is at hand when, as Brieger observes, we may, as practitioners of medicine, no longer be compelled to rely upon a raw empiricism, when we may find a specific therapy, if not remedy, for a specific cause, since we have already learned that accumulations of certain products of bacteria kill them. They show us that inflammation is not the cause, but the effect of disease which is caused by infection. They show us the direct road to cure through comprehension of the nature of the infection.

SANITARY.

Crippling the Health Board. — Actuated apparently by very political economy, Governor Hill has again seen fit to cripple the State Board of Health by vetoing the small item of $3,000 granted by the Legislature for the constantly increasing duties of sanitary investigation and expert aid in numerous localities. The published reason for this retrenchment is a reiteration of last year's opinion that the "regular appropriation" ought to suffice for all the work of the Board ; but we cannot avoid a conjecture that some more profound and practical statesmanlike motive lies behind this statement. With the scrupulous and minute consideration which, of course, his Excellency bestows on every subject brought to his official notice, he must be aware that although the Board is directed by law to "take cognizance of the interests of life and health among the people of this State, to make inquiries in respect to the causes of disease and especially of epidemics, to investigate the sources of mortality and the effects of localities, employments, and other conditions upon the public health," and although for these purposes it is empowered to engage suitable persons to make "practical and scientific investigations and examinations requiring expert skill," it cannot expend more than five thousand dollars in any one year "for such special sanitary service" out of the statutory appropriation. His thorough familiarity with the distribution of voting constituencies must have shown him that there are thirteen hundred local Boards of Health in the State, the majority of which appeal from time to time to the State Board for skilled investigation and advice in vital questions beyond their own capacity to solve. Furthermore, the Board is specifically ordered to maintain a complete registration of marriages, births, and deaths occurring in the whole State outside of five excepted cities ; and in a population of about 5,557,400 (we are obliged to estimate the total by the usual mathematical process, since his Excellency's veto of the appropriation for the census last year prevents our giving exact figures) a simple calculation will demonstrate that at least 62,000 deaths and 94,000 births should be annually registered in the central bureau with the necessary details for identification.

If, as we are bound to believe, Mr. Hill has perused the reports presented to him by Mr. Erastus Brooks, Chairman of the Finance Committee of the Board (whose worst enemies have never accused him of reckless extravagance), he must have learned that the ordinary appropriation of $20,000 is actually insufficient for the proper clerical performance of this enormous labor, and as a lawyer, he must have regretted the imperfection of the statistical records, which are of even more importance in forensic proceedings than for purely sanitary purposes. He doubtless knows that in other civilized countries the accurate compilation of vital statistics is deemed worth a much larger cost, and that the prevention of disease amply repays the enlistment of a staff of expert sanitarians, while our State Board is without means to engage a single permanent inspector.—*New York Times.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches
1 decametre	"	10	metres
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl drachm water at 60 deg. F.		56 96-100ths grains.
1 fl oz. " "		455 69-100ths "
1 fl gallon " "		231 cubic inches.
1 fl pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

ADMINISTRATION OF THE SALICYLATES.—Clinical experience seems to us to have proven that the salicylates are almost as much of a specific in rheumatism as is quinine in intermittent fever. The cases are further parallel in the facts that precisely as we have no knowledge of the nature of the malarial poison, and the way in which it affects the system, so have we no knowledge of the nature of the rheumatic poison and its relation to the system; if, indeed, rheumatism be due to the presence of the poison, and be not after all a neurosis. Further, since the pathologist has failed to give the basis, the therapeutist cannot explain either how quinine acts in malaria, or how the salicylates act in rheumatism. Until our pathological knowledge be more complete, to essay an explanation of the therapeutic facts would be to attempt to build a house in the air without a foundation.

The best method of administering quinine in malarial fever is even yet one concerning which physicians are not agreed, but in our opinion the right method is not to give for a length of time, 6, 8, or 10 grains a day of the cinchona alkaloid, but to employ it in overwhelming dose, so as to at once abort the intermittent paroxysm. We are much inclined to believe that the proper use of the salicylates is in the same way, and that many of the failures that occur with it in rheumatism are due to an incorrect method of administration. We have always obtained the best results by giving the remedy for thirty-six hours in doses as large as can be borne, then ceasing medication for one, two, or three days, and again giving a very large dose. Even the Apostle Paul expressed fears lest he himself should at some time forget his own teachings, and most of us occasionally lose sight of our own principles. Such forgetfulness led quite recently to a new lesson concerning the salicylates. A patient had been under our care for six weeks with sciatica, the salicylates of sodium had been exhibited in moderately full doses daily for weeks with only a measure of improvement; then the case was treated with iodide, etc. Finally, the symptoms not yielding, the man was put back upon the salicylate, and was ordered a dessertspoonful of a mixture three times a day containing 30 grains of sodium salts. By mistake of the nurse a tablespoonful was given instead of a dessertspoonful, so that the patient got in the twenty-four hours three drachms of the salicylate; the consequence was an immediate arrest of all the symptoms. Those of our readers who have ever camped out in the woods will appreciate the fact that you may tap all day at a half-rotten dry log with an axe without splitting it, but one-tenth of the force thus wasted will disrupt the wood when concentrated into a single tremendous blow.

There is little or no danger from the use even of very large doses of the salicylate, provided that these doses be separated from one another so that no accumulation of the salt can occur in the system. Recent experiments show that, except in enormous amounts, the salicylates are not depressant to the circulation. Indeed, Hugues Oltremare, of Paris, and Danewsky, of Moscow, are in accord in showing that moderate doses in the lower animals produce an increase of the arterial pressure, which, according to the experiments of Danewsky, are chiefly the result of the excitation of the vaso-motor centre, as is shown by the fact that it is prevented by section of the spinal cord—*i. e.*, by vaso-motor paralysis. Further, in 1884, Maragliano published a long series of sphygmographic and sphygmometrical studies upon men, which showed that the arterial pressure is usually elevated, and never depressed even by the largest therapeutic doses of the drug. It is possible that the general feeling of weakness and nervous depression which the drug in full doses undoubtedly causes has been mistaken by clinicians for the more serious cardiac depression. Only in cases of distinctly weak heart is there any reason for fear of using the salicylates in very large doses, provided, as we said before, that care is exercised to prevent any possible accumulation in the system.

There is one very important contra indication to the use of salicylates which we have not seen much dwelt upon by writers, namely, chronic congestion or catarrh of the middle ear. The tinnitus aurium which salicylic acid produces has been proven to be the result of an intense irritative congestion of the middle and internal ear. A notable deafness is always present in persons who are fully under its action, and when the inner portions of the aural apparatus are diseased, this deafness is greatly exaggerated. More important than the mere temporary inconvenience and distress which is produced in these cases, is the liability of permanently intensifying the existing deafness. The circumstances must be very urgent which would warrant the exhibition of full doses of the salicylates to the victims of chronic aural lesions.—*Therapeutic Gazette.*

EUCALYPTUS AS A TOPICAL AGENT.—In the *Cincinnati Medical News* Dr. P. T. Williams reports three cases of erysipelas affecting the face and right leg, another the face, and another the scrotum, in which the application of the fluid extract of eucalyptus promptly arrested the itching and burning sensation, and the exudation of the peculiar gummy discharge. In a case of caries of the tibia, with extensive inflammation of the skin, attended with the formation of numerous blebs and small ulcers, the happiest results followed upon the local use of the fluid extract of eucalyptus. In the cases of erysipelas it was applied, by means of a camel's-hair brush, every four hours. In the case of disease of the tibia he employed it twice daily. In each case appropriate internal treatment was made use of.—*Therapeutic Gazette.*

PARALDEHYDE AND ITS ADVANTAGES OVER CHLORAL. (Prof. Dujardin-Beaumetz in the *Therapeutic Gazette*).—The aldehydes, taken in their aggregate, constitute to-day a special group of considerable size, to the study of which my colleague and friend, Dr. Bourgoin, has devoted an entire volume. They are, as we all know, dehydrogenated alcohols, or, better still, the hydrides of alcoholic acid radicals. We shall here occupy ourselves only with ethylaldehyde, or, as it has been called, acetic aldehyde, or, better still, hydride of acetyl, having for its formula C_2H_4O, the formula of ethyl alcohol being C_2H_6O.

Paraldehyde is a body which is constituted by the union of three atoms of aldehyde, and has for its formula $C_6H_{12}O_3$, or, preferably, 3 (C_2H_4O). Paraldehyde, when kept at a temperature of 10° C., is a solid crystalline body, which melts above the temperature just given. This fusion point enables us to distinguish the pure paraldehydes from those that are not pure. In commerce two kinds of paraldehydes are to be found—the one liquid at 0°, the other solid at 10° C. It is to this last alone that the name of *pure paraldehyde* belongs. This paraldehyde, pure, is soluble in alcohol and in water; ten parts of water dissolve one part of paraldehyde, and this degree of solubility enables us to formulate the different preparations of which I am going to speak, and among which I shall signalize here especially two formulas which have been proposed by Yvon, the one a potion, the other an elixir. The potion is as follows:

Paraldehyde, 2 grammes (ʒss);
Linden [or camphor] water, 70 grammes (℥ij and ʒiiss);
Tincture of vanilla, gtt. xx;
Syrup of Wild cherry, 30 grammes (℥j). M.

The formula of the elixir is as follows:

Paraldehyde, 10 grammes (ʒiiss);
Alcohol at 90°, 48 grammes (℥j and ʒivss);
Tincture of vanilla, 2 grammes (ʒss);
Water, 30 grammes (℥ij). M.
Simple syrup, 60 grammes (℥ij). M.

A tablespoonful of this elixir contains 1 gramme (15 grains) of paraldehyde. The potion may be given in the same dose. In my own practice I generally use the following formula, which is the same as that of solutions of iodide and bromide of potassium:

Take of paraldehyde 15 parts (or ʒiij);
Water, 250 parts (or ℥vj).

Each tablespoonful contains one gramme (15 grains) of paraldehyde, and I give this solution with some kind of liquor—rum, whiskey, or kirsch. Paraldehyde has a quite special, disagreeable odor, which resembles the smell of a tippler's breath; and it is by mixing it with alcoholic liquors of pronounced taste (like kirsch orrum) that you best get rid of this taste and odor. Dr. Desnos makes use of mucilage of gum sweetened with gooseberry syrup for vehicle.

Paraldehyde has also been given in the form of enema, especially in insane asylums, and Kéraval and Nerkam have employed the following formula:

Paraldehyde, 2 grammes (ʒss);
Yolk of one egg;
Infusion of marshmallows, 120 grammes (℥iv). M.

These physicians claim that enemata of paraldehyde are superior to enemata of chloral, and according to them the active dose by enema would appear to be one-half less than by mouth. These same practitioners have employed paraldehyde in subcutaneous injections (always in insane patients). Their formula is as follows:

Paraldehyde, 1 part;
Cherry-laurel water, 1 part;
Distilled water, 3 parts.

Each gramme (15 grains) of this solution represents 20 centigrammes (3 grains) of paraldehyde. These injections, according to their statement, have always been safe, though very painful. The experiments which I have made with paraldehyde in subcutaneous injections have almost always determined in my patients not only pain, but inflammatory indurations, and even abscesses. I think, therefore, that we ought absolutely to banish from therapeutics subcutaneous injections of paraldehyde.

In what dose should paraldehyde be administered? Ordinarily we may obtain the desired effect by giving from 2 to 3 grammes (30 to 45 grains), and this in one dose.

Paraldehyde, compared with chloral, has these advantages over the latter: it is less irritating, and for this reason it is better tolerated by the stomach and pharynx; it is not a cardiac poison, and, moreover, it works better than chloral in strychnine-poisoning, but it is less analgesic than chloral—that is to say, it calms pain less; therefore, whenever the insomnia is caused by pain, paraldehyde will show itself inferior to chloral, and especially to morphine. On the other hand, in nervous insomnias, and especially in those produced by the abuse of alcohol, paraldehyde is much superior to chloral, and I have many times seen in my hospital service the great benefit which may be derived from paraldehyde in the disorders arising from inebriety.

Much use has been made of paraldehyde in the various forms of mental alienation. In France it is Dr. Kéraval and Dr. Nerkam who have made the greatest number of trials with it in maniacal diseases. They have shown that paraldehyde is an excellent hypnotic in certain forms of insomnia with restlessness, and which are so common in the course of cerebral affections. They have also noted good effects in the convulsive neuroses, and in particular in the epileptic crises and multiple manifestations of hysteria.* I will add that in many cases of morphiomania I have been able to replace the morphine injections to which the patients were habituated by paraldehyde in the dose of 3 or 4 grammes (45 to 60 grs.) a day.

It has been affirmed that chloral is superior to paraldehyde in the fact that the latter drug sooner loses its effect on patients than the former. My observations do not bear out this view, and I have seen patients who for months have always obtained the same effects from the same doses. I might cite, for instance, the case of a Mexican affected with chronic ictrus, who has for more than a year been in the habit of relying on a 3 gramme dose of paraldehyde to get his sleep at night, and who never has been obliged to increase the dose; and it is the only agent which we have found capable of safely combating the tormenting itching which deprives him of sleep, all other hypnotics having failed in consequence of determining ill effects on the part of the liver or stomach. I think, then, that paraldehyde does not lose its remedial power as soon as has been represented, and among the hypnotics it is one of those that may be the longest continued with the least inconvenience. Paraldehyde seems, then, to me to be especially indicated in strychnine-poisoning, and I believe it perfectly applicable to the treatment of eclampsia.

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* Kéraval et Nerkam, *Action hypnotique et sédative de la paraldéhyde dans les différentes formes d'aliénation mentale* (Soc. médico-psychol., Mai, 1884); Nerkam, *Thése de Paris*, 1884.

TREATMENT OF GOUT.—In the treatment of an acute attack of gout, Dr. J. Mortimer Granville recommends: First, the free use of chloride of ammonium, with chlorate of potash in dilute solution, as an efficient diuretic, which operates without increasing, but on the contrary relieving, any irritation or congestion of the kidney which has occurred. Second, the employment of iodine in the form of the tincture, with glycerine and water in large quantity. The mixture, disagreeable as it is, affords so much relief from pain after each dose that the patient will generally be anxious to repeat it, and opium or any other anodyne may usually be dispensed with. After the more urgent symptoms are relieved, a grain of quinine should be added to each dose of the iodine mixture. On the other hand, if this mode of treatment should fail from any cause, Dr. Granville advises us to fall back on colchicum, administering the wine of the root in half drachm doses, with a saline or alkaline carbonate.—*American Journal Medical Sciences.*

TREATMENT OF ANGINA PECTORIS.—It is a well-known fact that all remedies which have hitherto been exhibited against the paroxysmal affection termed angina pectoris have been, generally speaking, failures, and that nearly all patients subject to these attacks have to succumb early to the progress of the disease. Even the latest approved treatment of angina with nitrite of amyl, nitrite of sodium, and nitro-glycerin, as discussed some months ago in the *Therapeutic Gazette*, will but rarely, and under certain conditions only, cure or alleviate the affection. Huchard, the famous clinician of the Bichat Hospital of Paris, has recently published a valuable essay (*Journal de Médecine*, No. 3, 1885) which throws an entirely new light upon the pathological agents of the affection and offers important therapeutic suggestions. A large number of autopsies (thirty-five) convinced the author that the ancient pathological views held respecting angina pectoris, as taught as early as 1799 by Jenner and Parry, were fully correct, viz., that the anginal paroxym is the result not of a neuropathic condition but of an arterial affection. Huchard by his novel treatment, based upon his undoubtedly correct pathological views, records a greater number of cures of true angina than any other clinician has ever obtained previously (twenty cures). His treatment consists principally in the exhibition of iodides, which, as is well known, are alone able to cure the affections of the arterial system, even those of a non-syphilitic nature. The iodide of potassium or, better, of sodium, given without intermission for months, and even years, in a daily dose of one to two grammes (fifteen to thirty grs.), will with certainty at first diminish the frequency and intensity of the anginal paroxysms, and finally bring about their definite and complete disappearance.

The curative effects of the iodides of sodium and potassium in aneurism of the aorta and various other arterial affections show the powerful influence of the iodine treatment on pathological conditions of the vascular apparatus. In aortitis, both of the acute and chronic type, we find most frequently dilatation of the aorta and elevation of the subclavian artery. Under the influence of the iodine treatment both symptoms can be relieved promptly and permanently. The most refractory cases in regard to this treatment are those in which the aortitis and the arterio-sclerosis approach their termination, for the iodides, however powerful they are, cannot suppress an arterial atheroma. In general, it can be said with propriety that "the iodides are the digitalis of the arteries." Huchard's routine formula is,—

℞ Sodii iodidi, gr. cl;
Aquæ destil., f℥l.
Fiat sol.

S.—Two to four teaspoonfuls daily, to be taken in a cup of tea.—*Therapeutic Gazette.*

Treatment of Quinsy.—Dr. F. P. Atkinson (*Practitioner*, November, 1885) says that the effervescing citrates will be found useful in allaying not only this but all other kinds of glandular inflammations; and Dr. Atkinson orders 20 grains of bicarbonate of potassium to be taken with 15 grains of citric acid every four hours in a state of effervescence. Guaiacum, which has long been known to be beneficial in throat cases, is best given in the form of lozenges made up with black-currant jam, in accordance with the directions of the pharmacopœia of the Throat Hospital, Golden Square. One of these lozenges should be sucked frequently. Iodine, when applied locally in cases of glandular inflammation, is known either to reduce the enlargement or to hasten suppuration, according to the stage in which it exists; and a gargle containing from 20 to 25 minims of the tincture to the ounce of water will be found particularly useful. This may be used by taking a little in the mouth and shaking the head from side to side. Port wine is an essential part of the treatment, and it is necessary for the patient to take from 4 to 6 ounces in the course of the day, besides plenty of beef-tea and milk. By this method solution is almost always brought about, and the patients are, with scarcely a single exception, able to resume their usual duties after the fourth day. When suppuration has commenced in the tonsils, which may be looked for about the sixth day, and made out by great throbbing in the ear on the affected side, it is best to omit the effervescing citrates and guaiacum lozenges, and depend on the iodine gargle, together with the port wine and beef-tea. Suppuration is by this means hastened and suffering curtailed.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—Ed.]

Annual Meeting of the American Medical Association.

The Thirty-Seventh Annual Meeting of the American Medical Association was held at St. Louis, Mo., May 4, 5, 6 and 7, and was very largely attended.

The President's address was delivered by Dr. William Brodie, of Detroit, and the following are extracts from it:

We have also to be thankful that so many have been spared to again meet in council and demonstrate our vitality as an association. Yet with all these blessings showered upon us, Death has been within our ranks, and some of our honored ones have yielded to his sceptre. It is therefore with sadness that I refer to the decease of Drs. W. K. Bowling, of Nashville, Tenn., John L. Atlee, of Lancaster, Penn., and Austin Flint, Sen., of New York City, during the past year, ex-Presidents of this Association.

From his youth up, Dr. Flint was an indefatigable laborer in the field of medical science. His reputation as a teacher and author was world-wide. Conscientious in his relation to the profession he so fondly loved, and to the public, his recognition of the code of ethics, as exemplifying the honorable relations of the profession towards one another and to their constituents, elevated him to the position of the true gentleman. In his death we have lost a bright star, and the International Medical Congress, for which he was selected (I may say unanimously) as its presiding officer, must mourn his sudden demise. Few men have been so justly eminent and yet so widely beloved and admired. His works are the expression of his experience and observation, and have been received by his professional brethren, not only at home, but abroad, as standard authority. The British Medical Association was honored by his acceptance of their invitation to deliver the address on *Medicine* at their next meeting, thus demonstrating the appreciation with which he was held abroad. With such areputation as he had achieved, it may well be said, "To die is noble."

The past generation of the great men of our profession are fast fading away. The seats they have so honorably filled in this Association are becoming vacant —may we indulge the hope, to be again filled by those of the present, who will so well represent their honor and professional integrity, that future generations may say of them, their mantle has fallen upon deserving merit. * * *

The Code of Ethics as adopted has stood the test of nearly forty years, and for more than nine-tenths of the regular medical profession of these United States constitutes their rule of action and professional government. Even those styling themselves eclectics or homœopathists have copied its principles in their constitutions, and made it the basis of their relations to one another and to the public. The government of the United States is based upon a written constitution; States and municipalities are governed by the same principles. The doctrine of majorities as thereby inculcated governs the action of organized society in its minute ramifications; the medical profession is no exception. We meet here to-day upon this broad principle, and what is most remarkable, of every State Medical Society, county society, or local organization which has adopted the Code, only one has repudiated it and entered upon the rôle of a *solitary minority*. I allude to the Medical Society of the State of New York, from which came the invitation, in 1845, for the preliminary meeting that gave birth to this Association. To their honor, be it written, the majority of the profession of that great State repudiated the action of their State Medical Society, and it now has the unenviable position of being solitary and alone in its opposition to the Code of Ethics. The reason for this defection was so manifestly financial that its influence did not extend beyond its own jurisdiction. It is through its Code that this Association represents the whole body of the medical profession throughout these United States, as the American Congress represents the people of the same. Could those wise men who framed this Code be here present with us to-day in this hall and witness your presence, they would say, like one of old, "Now lettest thou thy servant depart in peace." But one of that committee is now living*. * * * It has been charged that this Association has failed to meet the requirements of its founders, and instead of being a body for the advancement of scientific medicine has degenerated into a body of "thankless intriguers and demagogues."† For thirty-nine years this Association has been in existence. At its organization no other National association of medical men existed. A few of the older States had their State societies. The county societies in those days were few and far between. In the larger cities local societies were maintained; each was independent of the others. There was no general forum where individuals could present their investigations, and when presented, no general means of their dissemination. Could the transactions of this body be critically analyzed, the charge that scientific medicine has not been advanced by its existence would lamentably fail. The character of the work done by the Association since its organization may be well exemplified by a few selections from its Transactions.

The essay of Dr. Dalton on the "Corpus Luteum in Pregnancy" gave him a National reputation as a physiologist.—*Vol.* 4.

The prize essay of Dr. Austin Flint, Sr., on the "Value of Pitch in Percussion, and Respiratory Sounds and their Application to Physical Diagnosis," opened a new era in the investigation of pulmonary diseases.—*Vol.* 5.

"Coxalgia, or Hip Disease," by Alden March, M. D., an ex-President of this body, gave the first impulse to the proper diagnosis of this disease, and its treatment.

The prize essay of Prof. Charles D. Meigs, on "Accute and Chronic Diseases of the Neck of the Uterus," laid the foundation of the department of gynæcology, and the plates illustrating his cases are copied to the present time.

"The Surgical Treatment of certain Forms of Fibrous Tumors of the Uterus," by Washington L. Atlee, M.D., opened the field for the ovariotomist.

"The Cell—its Physiology, Pathology and Philosophy," by Waldo J. Barnett, from original investigations, anticipated Virchow.—*Vol.* 6.

"The new method of treating Un-united Fractures and Certain Deformities of the Osseous System," by Daniel Brainerd, would have done credit to Malgaigne.—*Vol.* 7.

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* Alonzo Clark, M. D., New York City.

† New York Medical Journal, page 44, 1885.

"Deformities after Fractures," by Dr. F. H. Hamilton, has become authority at home and abroad.—*Vol.* 8.

"The Clinical Study of Heart Sounds," by Austin Flint, Sr., M. D.

"Report on Morbus Coxarius, or Hip Disease," by L. A. Sayre, M.D., illustrative of the fixed treatment by Plaster of Paris.—*Vol.* 13.

Prize essay on the "Surgical Treatment of Morbid Growths within the Larynx," by Louis Elsberg, M.D., the father of laryngoscopy.—*Vol.* 16.

"Surgical Anatomy and History of the Common External and Internal Carotid Arteries; Anatomy and History of the Innominate and Subclavian Arteries." A prize essay by John A. Wyeth, M.D., *Vol.* 29.

These papers fully illustrate the character of the work done by the Association since its organization. Besides the reports on Medical Education, Medical Literature, Registration of Marriages, Births and Deaths, Medical Jurisprudence, Hygiene and Insanity, Meteorology and Epidemic Diseases, Cryptogamic and Zymotic Diseases, Practical Medicine, Materia Medica, Physiology, Obstetrics and Diseases of Women and Children, Surgery and Anatomy, Chemistry and Physiology, Pediatrics, State Medicine, etc., scarcely a question of importance, whether in the interest of the profession or the public, has failed to receive investigation.

The American Medical Association covers the whole field of medicine, and through its Sections affords an opportunity to every member, whether high or low, to give to the profession any and all of his persona knowledge.

> "No pent up Utica contracts its powers,
> The boundless universe of Medicine is ours."

The course of events in science, as well as in medicine (and I use the latter term in its broadest sense), demonstrated that much which is called new has had its expression in the writings of the fathers, and experience has shown that change is not always progress.

The prevention of yellow fever, the scourge of the Gulf States, is a problem in which our whole country is interested. Dr. Joseph Holt, of New Orleans, President of the State Board of Health of Louisiana, has given much time and study to this question. A bill has been reported in the House of Representatives, at Washington, appropriating money to investigate whether it can be aborted, and even prevented. A proper resolution adopted by this body, approving such a bill, would have great weight with Congress. It is highly proper that all such investigations should be conducted at the expense of the general government.

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In imitation of the British Medical Association, the journal system was adopted. I take great pleasure in stating that thus far it has been a satisfactory success. The Board of Trustees, with its efficient Editor-in-chief, have so managed its finances that it has proved no incumbrance on the Association. The plan adopted of receiving members by application has proved satisfactory, not only by increasing the circulation of the journal, but also by increasing its emoluments. The report of the trustees will give you a full and explicit statement of its financial condition and its growth.

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It is with great pleasure that I am able to inform you that the action taken at the meeting in Washington, inviting the Ninth International Medical Congress to meet in the Capitol City of the United States in 1887, is being fully consummated. The general officers of the Congress and Council, and the officers of the Sections, are gentlemen of renown in our own country, who add lustre to American medicine. Full and complete arrangements will be made for the meeting, and our foreign friends will receive a cordial welcome. Upon the reception of the report of your committee on the preliminary organization of the Congress, I believe you will find it satisfactory, and upon its adoption the further charge of the Congress will pass into the hands of the Executive Committee, as provided in Rule 10, thus relieving this Association of its responsibility in the matter.

As the authority of this body to act for the medical profession of the United States has been questioned, it may be proper for the information of many of the members to briefly present, in a concise manner, the relations of the Association to the coming International Congress. A Medical Congress to be International must necessarily be composed of members from different nations. Eight of these Congresses have been held in Europe, if we may except the International Medical Congress held in Philadelphia, September 4, 1876, the last of which was held in Copenhagen, Denmark. At the meeting of this Association in Washington, D.C., in May, 1884, the President, Dr. Austin Flint, Sr., suggested the propriety of inviting that body to meet in this country. The suggestion was referred to a committee who reported favorably. A committee was appointed to present the invitation. This committee was made broad, so as to represent the whole profession of the United States. The invitation was accepted. This committee was further authorized, in the event of the invitation being accepted, to add to their numbers, and proceed to perfect an organization with rules for its government. This the committee did, in accordance with custom and the rules governing the action of committees. This committee made its report to this Association at its next meeting, which was in New Orleans, the 28th day of April, 1885. By this action of the committee they fully recognized their responsibility to this body, and not to the profession at large. This report was not satisfactory, and the committee was enlarged by adding a member from each State and Territory, the Army, the Navy, and Marine Hospital Department. To this action the original committee demurred, and declined to take any further interest in the arrangements. That the Association was correct in its action I have only to refer you to *Cushing's Manual of Parliamentary Law*, the authority in this country, page 154, paragraph 262. When this committee made their report, and it was accepted, the committee was virtually discharged, (page 168, paragraph 290). The report was not adopted. What had passed in the committee was of no validity. It was in the power of the Association to discharge the committee from further consideration of the subject, to refer it back to them with instructions, or to enlarge the committee. The latter plan was adopted. It was claimed that there was an ambiguity in the resolution appointing the original committee in reference to their powers and duties. Whatever that ambiguity was, the committee itself settled the question by making their report to the Association, thereby acknowledging the authority of their powers and duties.

I cordially unite with the general sentiment of the medical profession that the report of your committee be adopted, and that those of our brethren who may be somewhat disappointed at results will yield their personal feelings to the common good, and by their work demonstrate to our foreign friends that, although there have been warm feelings, warmly expressed, they can rise above their personalities in the great question of Medical Science and National Hospitality.

Dr. J. L. Lynch, of Baltimore, from the Committee on Preliminary Organization of the Ninth International Medical Congress, reported that the Committee had adopted rules for the Organization, and had nominated the general officers for the Congress, the Committee of Arrangements, etc., the list of whom was submitted. On motion of Dr. Gihon, of Washington, the report was unanimously accepted and adopted.

The address in surgery and anatomy was delivered by Dr. Senn, of Milwaukee; the address in obstetrics and diseases of women by Dr. S. C. Gordon, of Portland, Me.; the address in medicine by Dr. Whittaker, of Cincinnati; the address in State Medicine by Dr. Rauch, of Springfield, Ill; the address in ophthalmology, otology, and laryngology, by Dr. Eugene Smith, of Detroit; the address in diseases of children, by Dr. W. D. Haggard, of Nashville; and the address in oral and dental surgery by Dr. J. S. Marshall, of Chicago.

Dr. A. L. Gihon, U. S. N., reported that the Committee on the Rush Monument had organized by the election of Dr. G. H. Rohé, of Maryland, as secretary, and Dr. J. M. Toner, of Washington, as treasurer; that a local committee had been appointed, and also a general committee of one from each State.

A new section, one on Medical Jurisprudence, was organized in accordance with a resolution introduced last year, and laid on the table.

The report of the Standing Committee on Meteorological Conditions and their Relations to the Prevalence of Disease, also Concerning the Collective Investigation of Disease in Co-operation with the British Medical Association, was presented by Dr. N. S. Davis, of Illinois. The answers received to blanks already sent out would form the basis of a report at the next annual meeting, and also at the Ninth International Congress.

On motion of Dr. Garnett, of Washington, it was resolved that the delegates to the Association be requested, on their return home, to adopt such measures as may to them seem best to call the attention of their respective members of Congress to the necessity of making an appropriation to assist the medical profession in properly receiving and entertaining the International Medical Congress in Washington in 1887.

Dr. J. M. Toner reported for the Judicial Council that the delegates from the Tristate Medical Society were not entitled to registration; that the delegates from the Davidson County Medical Society, Tennessee, were entitled to registration; that the protest against the delegates from the Mississippi Valley Medical Association had been dismissed, and that the matter of the Philadelphia County Medical Society had been referred back, with all the papers, to the society from which the delegates came, for adjudication. In the case of the protest against the latter society, which, upon petition, was re-opened to admit of the hearing of new testimony, the Council decided, after long and careful re-examination, including evidence not before presented, that, notwithstanding the fact that the delegates from this society had documents usually held to entitle to membership, the methods employed for obtaining such papers were of such a character as to prohibit their being received.

The Section on State Medicine reported the following resolutions, which were adopted: "That the Association re-affirm its utterances on the use and abuse of alcohol, and recommend the study of hygiene in our public schools; that a committee be appointed to consider the subject of cremation, and report at the next annual meeting; that the Association direct the Section on State Medicine to prepare and report a form of law regulating the conditions required as preliminary to the study of medicine, for graduation and for the license to practice, to be urged upon the several States, in order to secure uniformity in methods and results throughout the United States."

Dr. Gaston, of Atlanta, Georgia, presented a resolution, the purport of which was that, in view of the fact that well-authenticated reports have been received of the successful inoculation with attenuated virus of yellow-fever poison, in proof of which Dr. Horace Allen, now present, testifies that he was inoculated, and afterward passed through an epidemic of the disease at Rio Janeiro without contracting the disease, while many others died of it; and in view of the fact that reports have been published which indicate the safety of the procedure, the Association therefore petition Congress to appoint a scientific commission and appropriate sufficient funds for an investigation of the method and its success. The resolution was adopted.

The Committee on Nominations presented the following report of nominations for officers for the ensuing year:

President—E. H. Gregory, M.D., of St. Louis.

Vice-Presidents.—Drs. B. H. Miller, of Stillwater, Michigan; W. B. Welch, of Fayetteville, Arkansas; Wm. H. Pancoast, of Philadelphia; W. C. Wile, of Sandy Hook, Connecticut.

Permanent Secretary.—W. B. Atkinson, M.D., of Philadelphia.

Assistant Secretary.—J. Nevins Hyde, M.D., of Chicago.

Treasurer.—R. J. Dunglison, M.D., of Philadelphia.

Librarian.—C. H. A. Kleinschmidt, M.D., of Washington, D. C.

Section of Practice of Medicine.—Drs. J. S. Lynch, of Baltimore, Chairman; J. B. Marvin, of Kentucky, Secretary.

Section of Surgery.—Drs. H. H. Mudd, of St. Louis, Chairman; J. B. Roberts, of Philadelphia, Secretary.

Section of Obstetrics.—Drs. S. M. Johnson, of Kansas, Chairman; W. W. Jaggard, of Illinois, Secretary.

Section of Oral and Dental Surgery.—Drs. J. S. Marshall, of Chicago, Chairman; E. S. Talbott, of Chicago, Secretary.

Section of Medical Jurisprudence.—I. N. Quimby, M.D., of New Jersey, President; H. H. Kimble, M.D., of Minnesota, Secretary.

Section of State Medicine.—Dr. Geo. H. Rohé, of Baltimore, Chairman.

Committee on Necrology.—J. M. Toner, M.D., of Washington, Chairman.

Judicial Council.—Drs. N. S. Davis, of Illinois; Hawkins Brown, of Kentucky; William Brodie, of Michigan; D. J. Roberts, of Tennessee; R. C. Moore, of Nebraska; T. A. Foster, of Maine; James A. Gray, of Georgia.

Trustees of Journal.—Drs. P. O. Hooper, of Arkansas; A. Garcelon, of Maine; L. S. McMurtry, of Kentucky.

Time and Place of Next Meeting.—Chicago, first Tuesday in June, 1887.

Chairman of Committee of Arrangements.—Charles Gilman Smith, M.D., of Chicago.

The report was unanimously adopted.

TEXAS STATE MEDICAL ASSOCIATION.

At the eighteenth annual meeting of the Texas State Medical Association, which was held at Dallas, April 27, 28, 29 and 30, the opening address of the President, Dr. Becton, of Sulphur Springs, was as follows:*

Gentlemen: Another year, with its many trials, hardships, and disappointments, and its few triumphs, has gone. Kind Providence has permitted us again to assemble as a State Medical Association. Our coming together is saddened by the reflection that some who were wont to meet with us are no more. Death has claimed for his own Ashbel Smith, W. H. Park, W. A. East, J. L. Fielder, H. P. Downmar. They were good and true men, and deserve more than a passing notice. * * * Your attention is called to the very excellent and carefully prepared report on surgery by our special committee, a copy of which was sent me in advance of this meeting. The untiring efforts of the distinguished chairman of that committee to collect statistics of Texas surgery is truly praiseworthy. He has done a good work for the profession, and has most clearly shown that much professional good "can come out of Texas." I recommend that this committee be continued, and that all necessary expenses be paid by this Association.

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* On account of the limited space at disposal in this department, a few passages of the address are necessarily omitted.

I am now, and have ever been, opposed to asking for any legislation in behalf of the medical profession. In this I am aware of the fact that I differ from a majority of this association. I have heretofore, as a member, acquiesced in the will of the majority, and have done what I could to aid in carrying out that will. But as president of this association I feel it my duty to recommend that no action be had at this meeting looking to asking the Legislature to pass any law to regulate the practice of medicine. [Applause.] I believe with my loved and lamented teacher, the great Bowling, that "medicine and things medical belong to medical men." The educated physician needs no protection except such as the law gives every good citizen. Quacks cannot be suppressed by legal enactments. As has been truthfully said by an honored member of this association, "They find place and favor in all professions and avocations, and are simply an outgrowth of human corruption, and doubtless will be found in all human institutions this side of the millennium." Vile impostors and pretenders are found in the pulpit, at the bar, in politics, everywhere. And every effort to rid our profession of them and to elevate the standard of honorable medicine by legislative enactments will prove abortive. Let our annual meetings be a gathering of educated gentlemen for the purpose, as is so happily stated in our constitution, "of organizing the medical profession of the State in the most efficient manner possible; to encourage a high standard of professional qualifications and ethics, and to promote professional brotherhood." [Applause.]

If the people want protection from quacks, pretenders, and irregular practitioners, let them ask for it; let them invoke the aid of this association, and it will be cheerfully accorded. Any effort that we might make in their behalf would, as has been done, be misconstrued and treated with contempt. This association cannot afford to knock at the door of the Texas Legislature until that body has learned to appreciate the honor, dignity, and purity of the medical profession and the value of human life. Let us elevate the profession, asking no favor of any earthly tribunal. [Applause.]

Unfortunately for the honor of the profession, there are men in it who are not in harmony with either the letter or spirit of our national code of ethics. * * * The representatives of the Texas State Medical Association were a unit upon that question (The Ninth International Medical Congress) and sustained the National Association in its efforts to keep its altars undefiled. I would respectfully recommend that you pass such resolutions as will emphasize the position of the Texas State Medical Association in regard to this whole matter, and that our delegates to the National Association be instructed to carry out these resolutions. The maintenance of the code of ethics in its entirety and moral soundness is of far more importance to the great body of working physicians in the United States than the holding of one meeting of the International Medical Congress in our national capital. As Americans, we would be glad to have our brethren of the profession of other countries meet with us; they occupy an honorable position before the medical world, and have made no un-reasonable demands of us. But if a portion of the American profession require us to sacrifice the integrity of our code to secure the International Medical Congress, we prefer to lose it. Though we may lose all, let us save our honor. Let us preserve intact the palladium of our rights, the bulwark of the American profession, our magna charta.

ORIGINAL CORRESPONDENCE.

LETTER FROM PARIS.

Pasteur—Le Fort—Peter—Intuition in Medicine—The Death of Bouchardat—Antiseptic Treatment of Gonorrhœa.

15 Rue Caumartin,
PARIS, *April* 26, 1886.

To the Editor of Gaillard's Medical Journal.

DEAR SIR: The practical utility of Pasteur's vaccinations for the prevention of hydrophobia having been established by indisputable facts—more than *five hundred* successful instances of protection being upon record—it is proposed to establish in this city an institution especially devoted to the accomodation of his patients and the more thorough and systematic employment of his treatment.

As the requisite funds are to be raised by subscription, and as this hospital is to be free to *all* comers—to Americans equally with the citizens of every other country—it seems but just and right that our people should take an interest in the work, and should seize upon the occasion to give a practical expression to their respect for Pasteur, and their appreciation of his labors, by contributing to its erection and maintenance.

It is sincerely to be hoped, therefore, that the physicians of the United States will take an active interest in the matter, and that, after subscribing to the extent of their ability, they will make it a point to present the claims of the proposed institute to their friends and patrons.

Circumstances having placed me *en rapport* with the originators of this enterprise, and feeling the deepest interest in it, I am in position to act as a medium of communication between them and my compatriots, and I gladly place myself at the disposition of all who may feel inclined to contribute in this regard, believing that in so doing I shall promote the interests alike of science and of humanity.

Notwithstanding the admitted success of Pasteur—for only *three* persons out of the *five hundred* treated have been attacked by hydrophobia—and in the face of the crowds of confiding patients who are daily visiting Paris to submit to his vaccinations, there are men of recognized ability who still deny his premises and repudiate his conclusions.

At a recent meeting of the Academy of Medicine, Professor LeFort boldly and bitterly attacked the *microbe* theory. Addressing himself to its special advocates—whom he designated as "fanatics"—he said: "By denying the spontaneous germination of microbes *in* the human system, you necessitate their existence *outside* of it, and yet you cannot detect one there. The most virulent epidemic of erysipelas or gangrene or hospital fever may rage in a hospital ward, but still human ingenuity is powerless to find in its atmosphere a single morbific germ, if there really existed anything in the *entourage* of the stricken patients—and germs would be there if they *enter from without*—they would necessarily be discoverable. It follows, therefore, that the negative results of the search for them overthrow your system, and leave you without recourse. Upon your own grounds. therefore, the *microbe* theory is false—is but a tissue of contradictions in terms and conclusions, without a single authenticated fact to give it consistency and vitality."

He then referred to the experiments of Rose, of Zurich, who left amputated surfaces exposed to the atmosphere, *et aux fureurs de tous les microbes*, without appreciable detriment to his patients, and contrasted it with that of Billroth, who, with identical hygienic conditions, had results less fortunate, although he invoked every possible antiseptic precaution.

He also stated that he had tried similar experiments, having left two stumps—one at *Beaufort* and the other at *Hotel Dieu*—entirely unprotected for several days, without the slightest interruption of the process of cicatrization or the development of any constitutional disturbance.

Professor Peter is, however, the boldest and ablest of this school, and for some time past the *seances* of the Academy have been mainly occupied with his diatribes against *microbes* and their champions.

Ptomaines are his hobby. He teaches that disease is produced, not from germs which *enter* the body, but which are developed *in it*. According to him, life entails death, because in the physiological metamorphosis essential to its manifestation certain bodies are elaborated which induce decay and cause dissolution. Our systems are, in fact, but laboratories for the preparation of poisonous compounds, which first contaminate and then destroy them.

Boyish in appearance, slight of stature, with flowing locks parted in the centre, and an oval face which would be commonplace but for the brilliant dark eyes which illuminate it, he has but little of the bearing of an Academician. At first sight he impresses one more as a man of will and passion than of intellect, and yet, though comparatively a young man—having graduated in '59—he is a Professor of the Faculty of Medicine, a member of the Academy, an Officer of the Legion of Honor, and the leading consultant of Paris. His career has, in fact, been a succession of triumphs, and as a teacher, an author, and a practitioner of medicine, he has troops of enthusiastic admirers, and is generally regarded as a genius of the highest order.

In the Academy of Medicine he has long played a conspicuous part, being naturally combative, and possessing many of the attributes of an orator. Subtle, sophistical, a master of invective, and having a wonderful command of strong, incisive, and effective language, by carrying the war into Africa, and placing his opponents on the defensive, he usually carries off the honors of the polemic, whatever the intrinsic merits of his cause or the real strength of those who antagonize him. He is, in truth, a natural "stump-speaker," and though the dignity of the Academy was at first offended at the manner and the style of his discourses, his confrères in that august assembly have come to appreciate him as a man of unusual brilliancy, much learning, great industry, and exceptional declamatory gifts.

And yet I do not regard him as a man of first-class abilities—as coming up to the highest standard of professional excellence. He is not so profoundly learned as he is skilful in the use of his knowledge. He does not arrive at his conclusions so much by a process of ratiocination as by trusting to intuition—striking always boldly, sometimes with marvellous accuracy, and then again most wildly and dangerously. Instinct with enthusiasm, dash, and dogmatism, he confounds these qualities with the highest attributes of professional qualifications, and the world accepts his estimate of himself and honors him accordingly. In a word, he possesses too much of the afflatus of genius to be of the truest type of a physician and the highest order of a *savant.*

En passant permit to say that I have a holy horror of those who claim a special inspiration in medicine and profess to be guided by what is styled *instinct* in the recognition and treatment of disease. This aversion has been strengthened and deepened by some experiences which I have had with this class of physicians—men who arrive at their conclusions in diagnosis and therapy, rarely gathering and considering all the available data in any given case, but under the guidance of the *genius* with which they believe themselves endowed.

On one occasion a physician of this style met me in consultation in a case of cerebro-spinal meningitis in its last stage, the patient being a young woman whose stomach was in a state of such intense irritability as to preclude the possibility of the administration of any drug or the slightest nourishment. Indeed, a single teaspoonful of water was sufficient to excite nausea and induce vomiting; and death from inanition seemed imminent. I related to him in advance the history of the case, and explained the extreme gastric susceptibility which existed, but no sooner had he seen the patient, and asked a few questions, than he beckoned me out of the room, and said very solemnly, "Doctor, a great mistake has been made in this case. It is simply hysteria, and the irritability of the stomach is one of the manifestations of that disease. Give her ten-grain doses of powdered valerian every two hours, and she will be well by to-morrow. My *instinct* tells me so." I was amazed, stupefied, at the rashness and incorrectness of this diagnosis, and attempted to remonstrate with him, repeating the history of the case, and arguing that, if a teaspoonful of water induced emesis, ten grains of valerian would have a disastrous effect—would prove the death of the patient. His only answer was, "I know hysteria when I see it, intuitively. Give the valerian, and I will answer for the result." Though the father of the young girl was a physician, like a drowning man catching at a straw, he accepted the conclusions of this man of intuition, and insisted that the remedy should be administered, notwithstanding my urgent remonstrances. "Well, gentlemen," I said, "since you insist upon a remedy which I believe to be dangerous—nay fatal—it only remains for me to withdraw;" and, taking my hat, I left the house in a state of extreme disgust and indignation. A few hours afterward I received a note from the father, earnestly requesting me to come to him; and on my arrival at the house I found the poor girl in *articulo mortis*—sacrificed to the pretended intuition and real vanity of her medical attendant.

If this was not murder, it was something nearly related to it; but the "man of genius" who perpetrated it, instead of receiving the penalty which his infatuation with himself so richly merited, is still at large, making his wonderful hits, and the object of a supreme adulation upon the part of many credulous friends. Had this occurred in France, the body of the victim would have been taken to the morgue, a thorough autopsy would have been made, and the blundering egotist would have been arraigned and punished as he deserved. On another occasion I was called upon to treat temporarily a patient who had long been in the hands of one of the most celebrated practitioners of England. He was suffering from dyspepsia, accompanied by a diarrhœa of a most persistent nature. Growing weary of treatment, he threw medicine to the dogs, disregarded all the rules which had been established in regard to his regimen, and started on a journey to Spain. At Biarritz he found himself alarmingly ill—dying, in fact—and was forced to take to his bed and send for a physician. Unfortunately, the only medical man available was one who prided himself on his *intuitive* knowledge of disease, and, *as soon as he saw* the patient, he boldly declared that his malady was *diabetes*, a diagnosis which he considered absolutely verified by the finding of traces of sugar in his urine, and proceeded to denounce the patient's previous medical attendants as "fools" for having failed to discover that which *he* "recognized at a single glance." Influenced by his assumption of superior discrimination—his professed *intuitive* faculty of diagnosis—the family of the patient accepted his statements, and to this day hold us responsible for the death of their relative, although there had been neither special emaciation nor notable augmentation of the urinary secretion nor excessive thirst nor marked dryness of the fauces nor any other symptom characteristic of *diabetes*. Indeed, the fact that the patient had suffered continuously from diarrhœa—constipation being the rule, as you know, in the disease in question—seemed to escape his attention, and ignoring the well authenticated circumstance that traces of sugar are found in connection with many other affections besides diabetes, he struck boldly for a diagnosis and a reputation, in utter indifference to the wrong done to his absent colleagues—one of whom, at least, towers as much above him in professional reputation and ability as Mont Blanc above the most insignificant of mole-hills. But *genius*, you know, is not to be trammeled by ordinary considerations. By inherent prerogative it tramples upon sensibilities, right, rules of propriety, obligation, and all else that comes in its way, and knows no law save that which *it* establishes, while those who have not this divine gift are supposed to look on admiringly and with a sense of supreme humiliation. Of course, I would say nothing in derogation of it, but I would confine it to other fields than that of medicine. There is no place for it where etiquette and utter chaos are the alternatives, or where the issues joined are between life and death—where "bold strokes," when they miss the mark, are fatal ones, bringing discredit upon their perpetrators, disgrace to the profession, and sorrow to confiding families.

There has been a new departure announced in the treatment of that opprobrium of the profession, *gonorrhœa.* Dr. Bourgeois, in an article published in *The Archives of Military Medicine and Pharmacy*, takes the position that the discovery of the special *microbe* of this disease furnishes the indication for its specific and certain cure. The problem resolves itself into the task of finding some topical agent sufficiently energetic to destroy the parasite without irritating the urethra. There are three such agents, according to Dr. Bourgeois' experience, viz.: permanganate of potash, bichloride of mercury, and sulphate of quinine—the first of which he employs in a solution of 1-2,000, the second in a solution of 1-20,000, and the third in a solution of 1-100. He recommends that these solutions shall be first warmed, and then injected in such a way as to reach every portion of the urethra four times daily—the last injection being made invariably at midnight, so that the *microbes* may not have time to reproduce themselves.

Internally, he administers from one to two grammes of bromide of potash, and in scrofulous cases he supplements it with a daily dose of cod liver oil and the potassic tartrate of iron.

According to his statements, the disease is more rapidly and permanently cured by this treatment than by any other—the special indication being the destruction of the gonorrhœal gonococcus and its elimination from the urethra.

The employment of antiseptic injections in this connection is not a novelty, but they have been used only as adjuvants, and in the chronic stage of the disease; while Dr. Bourgeois resorts to them from the *first*, and *exclusively*, the internal remedies not being administered in any specific sense, but simply to secure in the part and system those conditions most favorable for the action of the local remedies.

This position is a bold one, though seemingly logical, and it remains to be determined by practical clinical experience whether or not Dr. Bourgeois has really discovered, as he alleges, a unique, specific, and infallible treatment of a disease for which every physician has a remedy, but up to the present moment nature alone has seemed to have a cure.

The Faculty of Paris has sustained a severe loss in the death of Professor Bouchardat. Born in the Department of Yonne on the 28th of July, 1806, he graduated in the medical school of this city in 1832, and since that date has been conspicuously before the public. Although he soon succeeded in obtaining the position of adjunct professor, at an early day he turned his attention to pharmacy, and entered the laboratory of *Hotel Dieu*, where the principal portion of his work was done. It was there that he prepared and published the numerous works on pharmacy, materia medica, and chemistry, with which the profession is so familiar, and which have given him a reputation throughout the world of science.

In 1850 he was elected a member of the Academy of Medicine, and in 1860 he successfully competed for the Chair of Hygiene in the Medical School of Paris, though he had as competitors Béclard, Tardieu, Sanson, and Marchal de Calvi.

From the moment of his installation in this professorship, he devoted himself with untiring energy to the task of elevating hygiene to its proper importance as a branch of medical knowledge. He opened for it, in fact, a newer and broader pathway, removed from simple physiological grounds and based upon the strictest laws of etiology—upon a careful analysis of the causes which conduce to the health and contribute to the mortality of individuals and of masses. Out of a heterogeneous mass of incomplete inferences and crude details, he elaborated a science, with fixed principles, exact laws, logical connections, and a practical adaptability. Investigating the origin, clinical history, natural course, and ulterior consequences of every disease which afflicts the human family, he sought either to fetter and emasculate it or to surround it by conditions which render it impotent and harmless.

Such was the career and such the work of Bouchardat! Unknown, friendless, poor in purse, but rich in intellect and high resolve, he came among strangers, and rose from one position of honor to another, until he reached the highest within the purview of professional ambition—a chair in the Medical School of Paris. Not satisfied simply with the possession of a professorship—though attained through the ordeal of a *concours*—he amplified, fertilized, and fructified the field of his labor until he was able to reap from it a rich harvest of renown for himself, of triumphs for science, and of blessings for humanity. True even in death to the inspirations of his great nature, he responded to the summons with a smile of triumph, while his expiring sentiments coincided with those which have been attributed to the Visigoth, and so beautifully interpreted by Everette:

> "When I am dead let no pageant train
> Waste its sorrow upon my bier,
> No worthless pomp of homage vain
> Stain it with a hypocritic tear."

His last request was that he should be buried without parade or panegyric—which was faithfully respected, for his remains were deposited in *Père La Chaise*, surrounded, it is true, by an immense throng of sorrowing friends, but as unostentatiously as if he had been the humblest citizen of France, and had not inscribed his name upon one of the proudest pages of her history.

Let the example of his life teach us the value of labor, combined with self-reliance and devotion to our calling; and let the circumstances of his death inspire us to that humility and self-abnegation which are the brightest jewels in the crown of human greatness! *Sic itur ad astra.*

With best wishes; believe me to be very truly and respectfully yours, etc.,

EDWARD WARREN (BEY), M.D., C.M., LL.D.

REVIEWS.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, AT ITS THIRTY-SIXTH ANNUAL SESSION, held at Scranton, Pa., May 27, 28, 29, 1886. Volume XVII. Published by the Society, Philadelphia. 1885.

This is a handsomely printed paper-bound volume of over five hundred pages, some one hundred and twenty-five of these being taken up with the reports of the various county medical societies, which constitute a special feature of the Transactions. The address of the President, Dr. Ezra P. Allen, of Bradford County, is mainly devoted to the important improvements and advances which have occurred in medicine and surgery since Dr. Allen entered the profession, about forty years ago.

Among the reports printed is one (which was adopted by the Society) from a special committee on medical education, with Dr. Traill Green as Chairman, which recommends the organization of a Board, independent of any corporation engaged in medical teaching, for the purpose of granting license to practice in the State, and the appointment of a committee to prepare for presentation to the Legislature a form of bill providing for the creation of such a licensing Board.

The report of the Committee on the Collective Investigation of Disease, of which Dr. James Tyson is Chairman, is somewhat disappointing; but as this is an entirely new feature in the work of the Society many allowances must be made. Of 2,000 cards, asking for reports upon pneumonia, acute rheumatism, and chorea, sent out six months previously, up to May 1st there were returned 60 on pneumonia, 48 on rheumatism, and 29 on chorea. The committee rightly believes that this number is insufficient to justify many important conclusions; but that the members of the Society may have an opportunity to appreciate the mode in which the investigation is applied, and to form some opinion as to the value of such a method, it presents a partial and preliminary report on pneumonia.

The Transactions contain the usual addresses in the various departments of medicine and surgery; and among the scientific papers published are the following: The Diagnosis of Incipient Cataract, by Dr. Edward Jackson, of Philadelphia; On the Non-Contagiousness of Cholera Asiatica, by Dr. Henry H. Smith, of Philadelphia; Dermatitis Medicamentosa—Eruptions Due to the Ingestion of Drugs—by Dr. Arthur Van Harlingen, of Philadelphia; Soaps, Especially Medicated, in Diseases of the Skin, by Dr. John V. Shoemaker, of Philadelphia; Retroflexed Splints, by Dr. W. D. Kearns, of Pittsburgh; Some More Recent Experiments with the Topical Uses of Earths, by Dr. Addinell Hewson, of Philadelphia, who has secured remarkable results with the application of earth in erysipelas, measles, small-pox, and scarlet fever, as well as in various surgical troubles; A Study of Eyes of Medical Students, by Dr. B. A. Randall, of Philadelphia; Dislocation of the Shoulder: Reasons for Making a Guarded Prognosis as to Complete Functional Recovery, by Dr. Oscar H. Allis, of Philadelphia; and The Epidemic of Typhoid Fever at Plymouth, Pa., by Dr. Lewis H. Taylor, of Wilkesbarre. The latter is accompanied with a plan of the town, with the sources of its water-supply, from the official surveys.

THE VALUE OF SANITATION IN ITS NATIONAL ASPECT, AS COMPARED WITH OTHER PUBLIC INTERESTS. An address by James E. Reeves, M.D., President, before the American Public Health Association, at Washington, D. C., December 8, 1885. Amherst, N. H., 1886.

The selection of Dr. Reeves, of Wheeling, West Virginia, as the President of the American Public Health Association last year, was a well-deserved honor to a gentleman who, by his attainments and special experience in sanitary affairs, was so eminently qualified for such a position, the highest, as he says in the opening of his address, that can be conferred by sanitary workers in the United States. In this able paper he shows that no question of a mere business interest can compare, either in importance or extent, with the general and individual interest which every man has in the preservation of health and life. "No matter," he says, "what the labor, manual or intellectual, at which he is engaged, nor how productive, each and every mode of obtaining individual supplies and contributing to the social welfare of the community is and must ever be subordinate, both individually and generally, to the possession of health. Accepting the estimate made by statisticians of the financial value of the life of each able-bodied, industrious man at sixteen hundred dollars, and the average cash value of each man, woman, and adolescent above twelve years of age at one thousand dollars, we then have some conception of the financial value of the life of each citizen, and the loss to the wealth of the country in unproductive labor from sickness and death from preventable diseases."

He then contrasts the wise and liberal provision made by some of the European powers for the promotion of sanitary science, and for enforcing its life-saving and wealth-producing precepts among all classes of the people, with the spasmodic, unreliable, and inefficient legislation on the same subject in this country, with a result that is not flattering to our national pride. While the departments of agriculture, education, and justice have received liberal support from the Government, the interests of the public health have by no means received a corresponding and sufficient share of national aid and encouragement.

Towards the close of his address he refers with pardonable pride to the ten volumes of transactions already published by the Association, which contain a total of 339 different papers by 222 authors, not including 12 presidential addresses, and many verbatim reports of discussions of important questions. A list, alphabetically arranged, of all the authors represented in the various volumes, with the titles of their communications, is appended.

The address, which is accompanied by a handsome steel engraving of Dr. Reeves, is beautifully printed on heavy paper.

A Chart of Physical Signs of Diseases of the Heart and Respiratory Organs, Including Thoracic Aneurism. Compiled from the Works of Various Authors, with Original Ideas and Observations. By R. C. M. Page, M.D., Instructor in the New York Polyclinic, in the Department of General Medicine and Diseases of the Chest, and Attending Physician, Diseases of Heart and Lungs, Northwestern Dispensary, New York. Revised. New York: J. H. Vail & Co., 21 Astor Place. 1886. Price, fifty cents each, or $5.00 per dozen.

While not by any means designed to take the place of the larger works on the same subject, this chart of physical signs will be found of the greatest possible convenience for ready reference to students pursuing the ordinary curriculum at medical colleges, and to physicians taking special courses in diseases of the heart and lungs at post-graduate institutions, as well as to practitioners that may be a little rusty in physical diagnosis, who can see at a glance the special points which they desire to have fresh in mind in the investigation of certain cases, and which they may not have the time or the immediate opportunity to look up in the more elaborate treatises. The late Prof. Austin Flint pronounced the plan of the chart excellent, and Walshe, of London, writes that he has no doubt of its proving very useful to students. The whole field of physical exploration of the chest is systematically, as well as compactly, arranged in a nut-shell. Thus, in the portion of the chart devoted to pulmonary signs, there are six parallel columns devoted respectively to: (1) The Lungs in Health. Left Apex Standard. (2) Abnormal Distinction of Pulmonary Vesicles. Emphysema. (3) Incomplete Consolidation. Incipient Phthisis. (4) Complete Consolidation. Pneumonia, 2d Stage. (5) Cavities. Phthisis, 3d Stage. (6) Pleurisy with or without Effusion. In each of these six columns are given the characteristics of the respiration, vocal resonance, percussion resonance, vocal fremitus, and inspection-signs pertaining to the various conditions named, together with a few pertinent comments at the bottom. To facilitate the fixation in the mind of the different qualities of the respiratory sounds, as regards pitch and the comparative length of inspiration and expiration in each, an ingenious but very simple and effective device, in the way of diagrams, is made use of.

Dr. Page is to be congratulated on covering so much ground in such an extremely small space, and there can be little doubt that the demand for the chart will be large. It is printed on very heavy paper, and the text is arranged in such a manner that the creases always come between the different sections of reading matter, while when folded it is so flat that it can be readily slipped into one's pocket, even when the latter is already occupied to a large extent with other articles.

BOOKS AND PAMPHLETS RECEIVED.

" A Dictionary of Practical Surgery." By Various British Hospital Surgeons. Edited by Christopher Heath, F. R. C. S. Philadelphia: J. B. Lippincott Company. 1886.

" Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Investigation of Disease and on the General Management of Children." By Louis Starr, M.D. Philadelphia: P. Blakiston, Son & Co. 1886.

" The Student's Manual of Venereal Diseases. Being a Concise Description of those Affections and of their Treatment." By Berkeley Hill, M.D., and Arthur Cooper, M.D. Fourth Edition, Revised. Philadelphia: P. Blakiston, Son & Co. 1886.

"A Compend of Pharmacy." By F. E. Stewart, M.D., Ph.G. Based upon Prof. Joseph P. Remington's " Text-Book of Pharmacy." Philadelphia: P. Blakiston, Son & Co. 1886.

" On the Limitation of the Contagious Stage of Syphilis, Especially in Its Relations to Marriage." By F. N. Otis, M.D. Reprinted from *Journal of Cutaneous and Venereal Diseases*, Vol. IV. 1886.

" In Memoriam, Dr. Jos. W. Thompson."

" Report of Proceedings of the Illinois State Board of Health." Quarterly Meeting, Chicago, April 15 and 16, 1886.

" Rheumatism in Early Life." By Henry Dwight Chapin, A.M., M.D. Reprinted from *The Medical Record*, February 27, 1886.

" Two Cases of Bronchial Cyst." By Henry Dwight Chapin, A.M., M.D. Reprinted from *The Medical Record*, July 25, 1885.

" Diphtheria and its Management. Are Membranous Croup and Diphtheria Distinct Diseases?" By Joseph E. Winters, M.D. Reprinted from *The Medical Record*, December 5, 1885.

" Bulletin of the North Carolina Board of Health," Vol. I., No. 1, April, 1886.

" The Medical Record's Position Editorially as to the Value of Exsection for Hip-Disease." By W. R. Whitehead, M.D. Reprinted from the *Denver Medical Times.*

" A Case of Rupture of the Posterior Tibial Muscle. Also Description of a New Apparatus for Making Extension and Counter-Extension at the Ankle-joint in Diseases of this Joint." By W. R. Whitehead, M.D. Reprinted from the *Denver Medical Times.*

" Typhoid Fever in Philadelphia." By Henry Leffman, M.D. Read before the Philadelphia County Medical Society, Nov. 24, 1885.

I. " Ovarian Abscess and Pyosalpinx. (Reprinted from the *Liverpool Med-*

ico Chirurgical Journal). II. Pelvic Abscess. (Reprinted from the *Pacific Med. and Surg. Journal and Western Lancet*)." By Francis Imlach, M.D.

"The Exaggerated Importance of Minor Pelvic Inflammations." By Henry C. Coe, M.D., M.R.C.S. Reprinted from the *New York Medical Journal*, May 15, 1886.

"Malaria and Its Toxic Influences. Malarial Hæmaturia." By W. O'Daniel, A.M., M.D. Reprinted from the Transactions of the Medical Association of Georgia, 1885.

"Water Supply of Cities and Villages. The Anniversary Address before the Medical Society of the State of New York, 1886." By A. Vander Veer, A.M., M.D., President of the Society.

"A Lecture on Piper Methysticum." (Kavaka.) By Dr. L. Lewin. Translated from the *Berliner Klinische Wochenschrift*, Jan. 4, 1886. Scientific Department, Parke, Davis & Co., Detroit and New York.

"Clinical Lectures an Orthopædic Surgery." By A. Sydney Roberts, M.D. Nos. I and II. "The Etiology, Morbid Anatomy, Varieties, and Treatment of Chil-Foot." Reprinted from *The Medical News.*

"Supernumerary Mammary Glands and Nipples. Three Cases." By Wm. A. Edwards, M.D. Reprinted from *The Medical News.*

"Tetanus." Lecture Delivered at the College of Physicians and Surgeons, Chicago. By N. Senn, M.D., Milwaukee, Wis.

"Catarrh of the Upper Air-Tract, especially its Effects on the Ear. With Suggestions as to Treatment—both Hygienic and Medical." By Samuel Sexton, M.D. Reprinted from *The Medical Record.*

"Practical Hints about Sympathetic Diseases of the Eye." By C. A. Bucklin, M.D. Reprinted from *The Medical Record.*

"Note Book for Cases of Ovarian and other Abdominal Tumors." By John Homans, M.D. Boston: Cupples, Upham & Co.

"Western Reserve University, Medical Department, Cleveland, Ohio, Announcement, 1886–7."

"Eleventh Annual Announcement and Catalogue of Meharry Medical Department of Central Tennessee College, Nashville, Tenn.

MISCELLANEOUS.

EXTRACTS FROM THE REPORT OF THE SECRETARY OF THE ILLINOIS STATE BOARD OF HEALTH FOR THE QUARTER ENDING MARCH 31, 1886.—*Medical Education.*—This is the third year of the enforcement of the Board's Schedule of Requirements of Medical Colleges—compliance with which is necessary to entitle a school to "good standing" for the purposes of the Medical-Practice Act. The general results of this enforcement have already been set forth, and are claimed to be fairly satisfactory. It seems necessary, however, to call attention to a feature only incidentally alluded to in the following phrase from my last quarterly report: "A marked reduction [is shown] in the percentage of the graduates to matriculates in some colleges where the proportion was formerly very high." This reduction is believed to be the logical result of an honest attempt by such colleges to exact a higher standard of attainments in those aspiring to their diplomas. Unfortunately, it is only in "some" colleges that this attempt has been made, and last year the percentages of graduates to matriculates rose as high in individual cases as 52 for regular, 57.7 for homeopathic, and 58.3 for eclectic colleges—the averages of all schools being 33.3 for regular, 32.6 for homeopathic, and 33.9 for eclectic, and the minimum 10.5, 17.6 and 15, respectively. It is obvious that, deducting the annual losses, a two-year school whose average percentage of graduates for a series of years is as high as 45 must practically grant its diplomas to candidates for graduation without due regard to competency or qualification. Such an average percentage must be held to be prima facie evidence of the worthlessness of the diploma as a proof of fitness to practice medicine, no matter what the claims of the college may be on paper.

Vital Statistics.—Something over 1,200 letters have been written during the quarter, direct to physicians, concerning the returns of births and deaths. It is exceedingly gratifying to be able to state that, with very rare exceptions, the members of the profession express in their replies a hearty sympathy with the efforts of the Board to secure a more perfect registration of vital statistics. In the large majority of instances where Section 4 of the State Board of Health act has not been fully complied with, the omissions have been due to inadvertence, and not to hostility to the requirements of the law. This correspondence conclusively proves that Illinois physicians are law-abiding citizens. There is apparent, also, a very large recognition of the benefits conferred upon the profession by the legislation embodied in the acts to regulate the practice of medicine, and to create a State Board, and a corresponding desire to reciprocate, in some measure, by aiding in the important work of ascertaining the causes of mortality and of acquiring other information affecting life and health in the State. This matter of vital registration in the United States is inferior to that of any other civilized country, and the profession in Illinois owe it to themselves and to the public to do their fair share of labor necessary to redeem the country from such a contrast. One result of the recent correspondenee is to strengthen the conviction that such a revision of the law as was asked for at the last session of the General Assembly is desirable both to relieve the physician of unnecessary drudgery and to secure fuller and more accurate returns. On the other hand, it is suggested that the Board consider whether any modification of the certificates of births and deaths is desirable and practicable, with the same ends in view.

DR. HOLMES IN ENGLAND.—Dr. Oliver Wendell Holmes will be welcomed in this country by the reading classes of the community especially, and by the masses generally. The former will recognize him as an impressive and instructive writer; the latter partly as a humorist, partly as an American, and partly as a man of mark whom it is right to know. The medical profession, however, has a particular reason for hailing our guest with exceptional cordiality. He is for us in England the embodiment of an idea—unhappily, an idea which has very few remaining embodiments, which is fast dying out, and by its death leaving a body of cultured men deprived of one of its most potent claims on the respect and confidence of the educated classes. It is useless to disguise from ourselves that, in developing the professional and scientific elements of Medicine as a vocation, we have not only neglected, but almost willfully, if not willingly, abandoned its once scholarly and literary characteristics. It may seem a hard thing to say, but never in the history of our art were those by whom it is practiced at a lower ebb as regards general scholarship, in spite of the acknowledged excellence of their attainments as technists. It has been by throwing aside the weight of scholarship that professional distinction has been won.

Is it inevitable and final, this choice of a narrowed intellectual path for the practitioner of medicine? Must he certainly be an expert in the art of healing, and nothing besides? Before we answer this question, and while we are doing so, let us mingle with our cordial and brotherly welcome to Dr. Oliver Wendell Holmes a spirit of appreciative criticism, and try to learn how far we are the gainers or the losers by a policy of neglecting, if not of contemning, the gifts that were cultivated in the old times this visit of our revered guest invites us to recall, and in the possession and full fruition of which he has attained to an age crowned with honors and cheered by troops of friends.—*Lancet.*

EDITORIAL SECRETS.—The subscriber cannot know how vastly important he is to the editor. In turn, he plays the part of confidant, critic, consoler, judge. Without him the editor's work in life would be absolutely valueless. Inspiration would cease; industry lapse into idleness; careful compilation would be but the rearing of a structure for the first idle wind to level to the ground, while editorial acumen would be as the flowers of the field, doomed to perish on the morrow. * * * * Many are the faults condoned by the good subscriber, and many the short-comings which he has overlooked; many the friendly hints which he gives to the editor, and the timely suggestions which he offers. May heaven bless him and multiply him!

But there is also the *delinquent* subscriber. What is he to the editor? Does he know that it is his hand which has loaded the editor's life with burdens heavy indeed, but which must be borne with a smile, and lifted with constant patience? Does he know that it is he who robs the editor of necessary sleep; who turns his sweetest pleasures into bitter regrets? * * * Does he know that while he deems himself "careless" and "procrastinating" only, he is helping to pile up a load of debt upon the constant friend who sends him at regular intervals the freshest and best results of his mental labor? Ah! delinquent subscriber, think not that thy faults are venial! Pass not over the modest monthly reminder, which asks thee to "remit," with indifference. Upon thy promptitude hangs the happiness of one who contributes greatly to thy pleasure, thy knowledge, and thy usefulness. Upon thy "remembrance" depends the welfare of one who forgets thee never. Be not thou the one to make him anxious and unhappy, but warm his heart and stimulate his courage by thy practical assistance.—*Extract from "An Editor's Note Book."*

MEDICINE IN INDIA.—Fifteen hundred years ago India was far in advance of Europe in the cultivation of the sciences. The Sanscrit language had reached a degree of perfection not yet attained by any European tongue. In astronomy the Hindus had made such advances that Europe lagged behind a thousand years. But they believed in the eternity of matter, and in its essentially sinful character, and, finding no better solution of the problem of evil, they accepted the transmigration of souls into other bodies as the solution, and began to have a low estimate of the body, and sought by self-inflictions to break down all desire, love, and hope.

The medical science of India was at that time by far the best developed in the world; but it suffered, and has ever since suffered, from the depressing influence of the belief in the transmigration of souls. The number of medical works in Sanscrit is extraordinarily large. There are many works embracing the whole domain of the science, there are special investigations of single topics, and there are vast compilations issued under the patronage of kings and wealthy men. The sum of knowledge embodied in these books is really most respectable; many of the rules for dietetics and the explanation of the origin and diagnosis of diseases exhibit a very keen observation. In surgery the Hindus attained special proficiency. In this department European surgeons may even now learn somewhat. Certainly the operation of rhinoplasty was borrowed from India. They performed skillful amputations, arrested bleeding by pressure and by a cup-shaped bandage, and by applications of boiling oil. Inoculation was practiced long before it was known in Europe. Venesection, lithotomy, and couching for cataract have been practiced for hundreds of years. They performed operations on the abdomen and uterus, cured hernia, fistula, and piles, set broken bones and dislocations, and cured chronic neuralgia by cutting the fifth nerve above the eyebrow.

Their *materia medica* embraced a vast collection of drugs belonging to the mineral, vegetable, and animal kingdoms, many of which have been adopted by European physicians. But their belief in the sinfulness of the body and its corrupting influence on the spirit led to a depreciation and degradation of the body, and this resulted in driving the Brahmins away from the study and practice of medicine, and, consequently, the ignorant and low caste took up the work, and degraded it.

Then the Mohammedans came into power, some six hundred years ago, and everything distinctively Hindu fell into disuse and decay; the Greek system of medicine became the popular one, and largely supplanted the Hindu system. Now that the English are the rulers of the land, both the Greek and the Hindu systems are waning before the ascending star of Europe. In Madras, Calcutta, Bombay, and Lahore are excellent medical colleges, containing, in 1879, 1,661 pupils, who are taught by the most capable graduates of London, Dublin, Edinburgh, and Aberdeen. The courses of study, extending over five years, are more complete and elaborate than of most of the colleges of our own country. There are also a number of medical schools of a lower grade for the education of hospital assistants, with a four years' graded course of study.—THE. REV. R. HOSKINS, in the *Christian Advocate*, May 6, 1886.

UNCONSCIOUS HOMŒOPATHY—A QUESTIONABLE REMEDY.—The baby had got hold of a dish of cranberries, and a hard case of colic was the inevitable result.

"What in the name of all that is good and bad," said the head of the house, who was trying to read his paper, "is the cause of that baby's screaming?"

"Cranberries," replied the mother. "Hush, my baby, hush!"

"Well, for heaven's sake, if she wants cranberries, give her some. Anything to stop that noise."

JUMBO'S HEART, which weighs forty-seven pounds, is still true to educational science. It has been sent to Cornell University. It should have found a resting place in Vassar.—*Chicago News.*

A SURE CURE.—" Are you the proprietor of Dr. Coffin's celebrated consumption cure?"

" Yes, sir—the present one."

" Then your name, I presume, is Dr. Coffin?"

" No, I succeeded him. Dr. Coffin is dead. He died last fall of an incurable malady."

" Ah! I hadn't heard of it. May I ask what he died of?"

" Haven't heard? He died of consumption."—*Puck.*

THE ESSENCE OF CONSERVATISM (and good advice to physicians): " Unless it is necessary to move, it is necessary not to move."

MEDICAL NEWS.

THE CHOLERA IN ITALY.—In Apulia the disease still continues, though in no virulent manner. In Brindisi the number of cases seems rather to tend to diminish, but more are reported from Ostuni; and Bari, too, has become infected. The cholera returns for May 9 showed, in the province of Brindisi, 5 cases and 2 deaths; in the city of Venice, 13 cases and 8 deaths; and at Bari, 26 cases and 10 deaths. The cholera epidemic has abated in some of the Italian towns. The last bulletin stated there had occurred 2 cases at Brindisi, 5 at Ostuni, and 3 at two small southern towns. June 4 there were reported at Venice 32 new cases and 21 deaths.

PROPOSED MEDICAL DEFENCE UNION.—On May 6 a largely attended meeting of the members of the medical profession was held at the Medical Institute, Birmingham, to consider the advisability of forming a Medical Defence Union. Mr. Lawson Tait occupied the chair, and the following resolutions having been unanimously adopted, about sixty at once joined the Union: " In the opinion of this meeting, it is desirable to form a Medical Defence Union."

"That a committee, for the purpose of arranging the details of an establishment of the Midland Branch of the Medical Defense Union, should consist of all such gentlemen as were present and should agree to join, and also such as sent letters of apology for absence in which they express approval of the scheme."

BIRTH OF QUADRUPLETS.—A workwoman, in Paris, recently called up a midwife attached to the Assistance Publique, at four o'clock in the morning; labor-pains had already begun. Madame Gilbert was six months pregnant. Soon after her arrival at the midwife's in the Rue St. Martin, a male infant was born. Whilst the baby was being attended to, fresh pains came on; a second male child was born. This, in its turn, received the necessary attention, and its mother was again seized with labor-pains, and a third was born. Whilst the third child was being washed and attended to, a fourth was born. The four children were perfectly well formed; each measured 22.5 centimétres. Notwithstanding every care and attention, all four died a few hours after their birth. The mother recovered rapidly.—*British Medical Journal.*

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, LONDON.—The Princess of Wales has consented to open the new wing of this admirable charity early in June.

AMERICAN SURGICAL ASSOCIATION.—The Ninth Annual Reunion of this Society was held at Washington, D. C., April 28, 29, and 30, and May 1, 1886, Dr. Moses Gunn, of Chicago, presiding. Among the papers read were the following: "Diagnostitial Laparotomy," by Dr. Christopher Johnson, of Baltimore; "A Consideration of the Bacteria of Surgical Diseases," by Dr. H. C. Ernst, of Jamaica Plains, Mass.; "A Plan for Atmospheric Purification for Surgical and for Hygienic Purposes," by Dr. David Prince, of Jacksonville, Ill.; "Cholecystotomy," by Dr. C. T. Parkes, of Chicago; The "Surgery of the Pancreas," by Dr. N. Senn, of Milwaukee; and, "Traumatic Aneurism of the Internal Carotid Artery," by Dr. T. F. Prewitt, of St. Louis. Dr. C. H. Mastin, of Mobile, presented a plan for uniting the following associations in one annual congress of physicians and surgeons: 1. American Surgical Association; 2. American Ophthalmological Association; 3. American Otological Association; 4. American Neurological Association; 5. American Laryngological Association; 6. American Gynæcological Association; 7. American Dermatological Association; 8. American Climatological Association; 9. American Clinical and Pathological Association.

This proposition was referred to a Special Committee, consisting of Drs. J. Ewing Mears, Christopher Johnston, and W. T. Briggs, which reported that it viewed with great satisfaction the perfection of a plan through which the meeting of the associations above named in the city of Washington, at the same time of the year, may be accomplished, and the meeting of all the associations in general assembly on such days as may be determined, for the purpose of delivery of addresses upon general subjects in medicine, such meetings to be held without any formal organization through which the associations meeting will sacrifice their autonomy. To accomplish these purposes the Committee offered the following resolution:

Resolved, That a committee of five Fellows of this Association be appointed, which shall be authorized to confer with committees of other associations interested in the adoption of a plan of a convention as hereinbefore stated, and report upon the same at the next meeting, for the action of the Association.

The resolution was adopted, and the following committee was appointed in accordance therewith: Drs. C. H. Mastin, of Mobile, Chairman; C. T. Parkes, of Chicago; J. Ford Thompson, of Washington; N. Senn, of Milwaukee; and J. Ewing Mears, of Philadelphia, Secretary.

The following new Fellows were elected: H. H. Mudd, M.D., Professor of Surgical Anatomy and Clinical Surgery, St. Louis Medical College; Joseph Ransohoff, M.D., Professor of Descriptive Anatomy and Clinical Surgery, Medical College of Ohio, Cincinnati. Also the following Honorary Fellows: Sir William McCormac, Surgeon to St. Thomas's Hospital, London, England; Professor Henry J. Bigelow, of Boston.

The following officers were elected for the ensuing year: President, Hunter Mcguire, M.D., of Richmond; Vice-Presidents, T. F. Prewitt, M.D., of St. Louis, and J. W. S. Gouley, M.D., of New York; Secretary, Jacob R. Weist, M.D., of Richmond, Ind.; Treasurer, P. S. Conner, M.D., of Cincinnati; Recorder, J. Ewing Mears, M.D., of Philadelphia; Council, Drs. Moses Gunn, of Chicago; R. A. Kinloch, of Charleston; Hunter McGuire, of Richmond; John S. Billings, of Washington, D. C.; and L. McLane Tiffany, of Baltimore. Place and Time of Next Meeting, Washington, D.C., second Wednesday in May, 1887.

THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND held its eighty-eighth annual meeting at Baltimore April 27, 28, 29, and 30, Dr. John R. Quinan presiding. The subject of the President's address was, "The Chartered Right of the Medical and Chirurgical Faculty of Maryland to Exact Licenses to Practice in the State." The annual oration was delivered by Col. Geo. E. Waring, Jr., of New York, on "The Removal and Destruction of Organic Wastes." The following officers were elected for the ensuing year: President, Dr. George W. Miltenberger; Vice-Presidents, Dr. Thomas Opie, Dr. Richard Gundry; Secretary, Dr. G. Lane Taneyhill; Assistant Secretary, Dr. Robert T. Wilson; Corresponding Secretary, Dr. T. Barton Brune; Reporting Secretary, Dr. Richard H. Thomas; Treasurer, Dr. W. F. A. Kemp.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION held its third annual meeting at the hall of the College of Physicians, Philadelphia, May 10 and 11, 1886, Dr. William Pepper, of Philadelphia, presiding. The address of the President was on "The Causes and Distribution of Consumption in Pennsylvania. A communication was received from the Committee of the American Surgical Association, inviting the Society to appoint a Committee to confer with like committees from the other special societies in reference to the organization of a Congress of American Physicians and Surgeons. The communication was approved, and the following committee was appointed: Drs. A. L. Loomis, of New York; F. Donaldson, of Baltimore; F. C. Shattuck, of Boston; E. T. Bruen, of Philadelphia; and W. W. Johnston, of Washington. Among the papers read were the following: "The Effect of High Altitudes on Cardiac Disease," by Dr. A. L. Loomis, New York; "A Preliminary Account in Regard to Circulatory and Respiratory Changes Observed in Animals Placed in the Pneumatic Cabinet," by Dr. Frank Donaldson, Jr., Baltimore; "A Clinical Report of Cases Treated by Pneumatic Differentiation," by Dr. H. F. Williams, Brooklyn; "Ten Months' Experience with Pneumatic Differentiation," by Dr. V. Y. Bowditch, Boston; "The Physics and Physiological Action of Pneumatic Differentiation," by Dr. A. H. Platt, Brooklyn; "The Climate of Mexico," by Dr. H. D. Didama, Syracuse; "Southern Pine Parks," by Dr. A. N. Bell, New York: and "The Influence of High Altitudes with Reference to Nervous Affections," by Dr. C. L. Dana, New York. The following officers were elected for the ensuing year: President, Dr. F. Donaldson, of Baltimore; Vice-Presidents, Drs. V. Y. Bowditch, of Boston, and Roland G. Curtin, of Philadelphia; Secretary and Treasurer, Dr. J. B. Walker, of Philadelphia; Additional Member of Council, Dr. F. C. Shattuck, of Boston.

AMERICAN CHOLERA COMMISSION TO INDIA.—Dr. E. O. Shakespeare, of Philadelphia, who was commissioned to study the cholera epidemic in Spain and Italy, has been directed to proceed to India to study the disease in its home.

QUARANTINE IN THE SOUTH-WEST.—The Governor of Louisiana has issued a proclamation establishing a quarantine to take effect May 10, against all vessels sailing from inter-tropical American and West Indian ports and arriving at the Mississippi quarantine station.

A NEW LABORATORY FOR THE UNIVERSITY OF THE CITY OF NEW YORK.—The Medical Department of the University of the City of New York has just received a gift of $100,000 for the construction and maintenance of a laboratory building, to be known as the Loomis Laboratory. The gentleman who has made the gift wishes that for the present his name should not be made public. Land adjoining the property of the college has already been purchased, and it is hoped that the new building will be ready for occupation next year.

COLLEGE OF PHYSICIANS AND SURGEONS.—At the Annual Commencement of the College of Physicians and Surgeons of this city, on May 13, the Degree of Doctor of Medicine was conferred upon ninety-six candidates. The alumni prize of $500 was awarded to Dr. William Gilman Thompson, of New York, of the class of 1881, for an essay entitled "The Application of Instantaneous Photography to the Study of Physiology and Therapeutics." The donations made to the laboratory fund during the year include one of $5,000 from Mr. Morris K. Jessup, and one of $10,000 through Dr. W. H. Draper.

CHAIR OF PHYSIOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.—Dr. E. T. Reichert, formerly Demonstrator of Physiology in the University of Pennsylvania, has been elected to the chair of Physiology in that institution.

VIRGINIA STATE BOARD OF MEDICAL EXAMINERS.—At a meeting of this board, held April 7, there were thirty-four applicants; of these, twenty-five passed the examinations, one withdrew, and eight were rejected. Up to this time about one hundred graduates have applied for licenses, and sixty-six have succeeded in passing the examinations.

THE SOUTHWESTERN KENTUCKY MEDICAL ASSOCIATION held its fifteenth annual meeting in Paducah, Ky., on the 11th of May, 1886. The profession of southwestern Kentucky was well represented, a good attendance being present. A number of scientific papers were read which reflected much credit upon their authors. The annual election of officers for the ensuing year resulted as follows: Dr. R. T. Hooker, President; Dr. T. M. Prince, Sr., First Vice-President; Dr. B. T. Marshall, Jr., Second Vice-President; Dr. B. F. O'Daniel, Recording Secretary; Dr. J. R. Coleman, Corresponding Secretary; Dr. F. T. Davis, Treasurer. After the adjournment of the night session the Society was delightfully entertained at a banquet at the Richmond House, given by the Medical and Surgical Society of Paducah.

"THE OTHER SIDE OF COCAINE—THE BAD SIDE," was the subject of a paper presented by Dr. A. W. Calhoun, of this city, to the State Medical Association in Augusta last week. The doctor argues strongly against the use of cocaine in cataract operations by extraction. He stated that before he began the use of cocaine from ninety-five to ninety-seven per cent. of all cataract operations by extraction proved successful, and that in a large number in which cocaine had been used he had bad results. He had abandoned its use altogether in operations by extraction.—*Atlanta Medical and Surgical Journal.*

AMERICAN MEDICAL EDITORS' ASSOCIATION.—The annual address before this Association was delivered by Dr. H. O. Walker, of Detroit. The officers elected for the next year are: Drs. J. V. Shoemaker, of Philadelphia, President; Dudley S. Reynolds, of Louisville, Vice-President; William Porter, of St. Louis, Secretary.

DR. DANIEL G. BRINTON, whose work on American Ethnology was recently very favorably criticized in the *Atlantic Monthly*, has been made laureate of the Société Américaine de France for 1885, and has been awarded the medal of the Society for his works on the aboriginal tongues of America.—*Medical News.*

DR. WESLEY M. CARPENTER, of this city, has been appointed Clinical Lecturer on the Practice of Medicine in the Medical Department of the New York University. This, as the *Record* very truly says, is an honor peculiarly well deserved.

RECEPTION TO DR. HOLMES.—There was a large gathering at the St. George's Club, in London, on the evening of May 24, to welcome Dr. Oliver Wendell Holmes.

THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Prof. Wm. A. Hammond gave a handsome reception to the Faculty of this institution on the evening of May 15.

THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL held its second meeting in New York on Wednesday, May 19. In the evening the members met the Fellows of the New York Obstetrical Society, by invitation, at Dr. T. Gaillard Thomas's house.

NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.—There will be an Annual Conference of State and Dominion Health Authorities at Toronto, Canada, early in October of this year, and all State and Dominion Boards of Health are cordially invited to send delegates.

THE NEW YORK ACADEMY OF MEDICINE has recently received two bequests, one of $70,000 and the other of $5,000, the larger one being from the estate of the late Dr. Hosack.

THE FIRST ANNUAL COMMENCEMENT OF THE TRAINING SCHOOL FOR INSANE ASYLUM ATTENDANTS was recently held at Buffalo, when diplomas were given to seven graduates. In order to obtain a competent corps of attendants for the Buffalo State Asylum, Dr. Andrews established, in October, 1883, "The Training School for Asylum Attendants," the first school of its kind in the United States. A preliminary examination was required, and examinations for promotion were held at the end of each yearly course of study. The final examination was conducted by Dr. John Boardman, Dr. J. D. Hill, and Francis H. Root, trustees of the asylum.

DR. D. B. ST. JOHN ROOSA has been elected a Corresponding Fellow of the Academy of Medical Sciences of Havana.

LOUISIANA STATE MEDICAL SOCIETY.—The eighth annual meeting of this Society was held at New Iberia, April 14, 15, 16, Dr. Samuel Logan, of New Orleans, presiding. The subject of the President's address was "Medical Education and Medical Organization," and that of the annual oration, by Dr. H. D. Bruns, "Some of Our Forgotten Worthies." The following medical papers were read: "A Case of Pyo-Pneumo-Thorax," by Dr. A. McShane; "Diseases and Deaths Occurring in the Medical Service of Joseph Jones, M.D., from 1869 to 1886," by Dr. Joseph Jones; "Malarial Hæmaturia," by Dr. R. H. Day; "Malarial Pneumonia," by Dr. D. R. Fox; "Remarks on the Prophylactic Treatment of Fevers," by Dr. R. W. Seay; "Two Cases of Extra-Uterine Pregnancy," by Dr. T. J. Woolf; "The Care of the Teeth," by Dr. A. G. Friedrichs; "Observations on the Nature and Etiology of Typho-Malarial Fever, So-called," by Dr. Thomas Hebert; "Iliac Abscess," by Dr. R. Matas.

The following resolutions were adopted: *Resolved*, That this Society approves the constitution and action of the Executive Committee of the American Medical Association appointed at its last meeting in the preliminary organization of the Ninth International Medical Congress.

Resolved, That in the opinion of this body any further agitation of this matter will only result in injury to the profession of America, and will tend to impair the success of the Congress.

The following officers were elected: President, Dr. D. R. Fox; Vice-Presidents, Drs. J. Jones, A. B. Miles, L. G. Blanchet, J. A. S. Fish, R. W. Seay, and L. G. Perkins; Recording Secretary, Dr. P. B. McCutchon; Corresponding Secretary, Dr. S. S. Herrick; Treasurer, Dr. F. W. Parham; Annual Orator, Judge W. F. Blackman, of Alexandria.

Alexandria was selected as the place, and the second Thursday in April, 1887, the time, for the next meeting.

MISSOURI STATE MEDICAL ASSOCIATION.—At the annual meeting, held at St. Louis, May 3, the following officers were elected: Dr. J. W. Jackson, Kansas City, President; Dr. J. W. Moss, Columbia; Dr. W. E. Fishel, St. Louis; Dr. C. L. Lamb, Hannibal; Dr. Tinsley Brown, Dr. Hamilton, and Dr. J. S. Gillette, Rich Hill, Vice-Presidents; Dr. J. C. Mulhall, St. Louis, and Dr. E. Cave, Mexico, Recording Secretaries; Dr. R. F. Brookes, Carthage, Corresponding Secretary; Dr. J. H. Thompson, Jefferson City, Treasurer. Macon City was selected as the place of meeting in 1887.

The Faculty of the Post-Graduate School of Medicine gave the State Medical Association a reception at their building in the evening.

THE SOUTH CAROLINA MEDICAL ASSOCIATION, Dr. O. B. Mayer, President, met at Camden, April 20. Dr. D. L. De Saussure delivered the address of welcome on behalf of the Kershaw County Medical Society, and General John D. Kennedy on behalf of the citizens of Camden.

The present members of the State Board of Health were unanimously renominated for appointment by the Governor, and the following officers were elected for the ensuing year: Dr. C. W. Kollock, of Cheraw, President; Dr. A. A. Moore, of Camden; Dr. Bratton, of York, and Dr. Wannamaker, of Orangeburg, Vice-Presidents; Dr. W. Peyre Porcher, Recording Secretary, and Dr. Dawson, Corresponding Secretary.

THE MISSISSIPPI STATE MEDICAL ASSOCIATION completed a very successful session at Jackson, April 22. Resolutions were passed endorsing the action of the American Medical Association, at its last meeting in New Orleans, in enlarging the Committee on Organization of the International Congress, and approving the present constitution and the action of the Committee. The following officers for the coming year were elected: President, Dr. R. S. Toombs, of Greenville; First Vice-President, W. B. Longford, of Corinth; Second Vice-President, Dr. G. W. Trimble, of Grenada; Secretary, Dr. W. E. Todd, of Clinton; Assistant Secretary, P. W. Rowland, of Coffeeville; Recording Secretary, Dr. M. S. Craft, of Jackson; Treasurer, Dr. John F. Hunter; Members of the Judicial Council, Dr. S. V. D. Hill, of Macon, Dr. W. D. Carter, of Ripley, and Dr. N. L. Guice, of Fayette.

Steps were taken looking to the establishment of a pathological museum and library.

The administration of Dr. Joseph Holt, President of the Louisiana Board of Health, was cordially endorsed.—*New Orleans Medical and Surgical Journal.*

THE NASHVILLE ACADEMY OF MEDICINE AND SURGERY is the title of a new medical society recently organized in Nashville, Tenn.

THE NEUROLOGICAL REVIEW.—The first number of this new monthly journal, which is published in Chicago, and edited by Dr. J. S. Jewell, has been received. The editor states that it is his intention that it shall occupy distinctively the clinical field of neurology, using this latter term in its widest, deepest sense. But while the *Review* is to be practical, it is to be truly scientific in spirit. It is also intended that it shall embrace a full, free, and readable review of the whole field of neurological literature, so far as its limits make this possible. The first number (May) is an excellent one.

PROFESSOR FLINT'S ADDRESS FOR THE BRITISH MEDICAL ASSOCIATION.—Messrs. D. Appleton & Company announce the publication of the address prepared by the late Dr. Austin Flint for the annual meeting of the British Medical Association in 1886, the title of which is, "The Medicine of the Future."

THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA held its annual meeting at New Berne the third week in May, Dr. Joseph Graham presiding. It was announced that during the year there had been 154 applicants for license to practice medicine to the State Board of Examiners, and that of these 119 had passed a satisfactory examination. The annual oration was by Dr. George W. Long, whose subject was, "Some of the Aims and Purposes of the Medical Profession." Dr. N. J. Pitman, of Tarboro', offered an annual prize of $100 for the best essay on scientific medicine. The following officers were elected: Dr. Henry T. Bahnson, of Salem, President; Dr. J. M. Baker, of Tarboro', Secretary; Dr. R. L. Payne, of Lexington, Treasurer; and Dr. M. Hayes, of Oxford, Orator. Dr. Hunter McGuire, of Richmond, who was present as a delegate from the Virginia Medical Society, was elected an honorary member. The next annual meeting of the Association will be held in Charlotte, on the second Wednesday of April, 1887.

THE ILLINOIS STATE MEDICAL SOCIETY.—At the 36th annual meeting of this Society, held at Bloomington May 18, 19, and 20, the following officers were elected: Dr. W. T. Kirk, of Atlanta, President; Dr. E. Wenger, of Gilman, and Dr. W. T. Ensign, of Rutland, Vice-Presidents; Dr. D. W. Graham, of Chicago, Secretary; Dr. Hay, of Chicago, Treasurer; and Dr. H. J. Reynolds, of Chicago, Assistant Secretary.

A LABORATORY FOR THE LONG ISLAND COLLEGE HOSPITAL.—Dr. C. N. Hoagland has announced his intention to erect and equip in the most approved manner a new pathological laboratory for the use of this school. It will be situated on Henry Street, opposite the College building, and be known as the Hoagland Laboratory of the Long Island College Hospital.

AMERICAN LARYNGOLOGICAL ASSOCIATION—At the eighth annual meeting of the Association, held in Philadelphia, May 27, 28, and 29, 1886, the following officers were elected for the ensuing year: President—E. Fletcher Ingals, M.D., Chicago. Vice-Presidents—E. Carroll Morgan, M.D., Washington; John N. Mackenzie, M.D., Baltimore. Member of Council—Franklin H. Hooper, M.D., Boston. Librarian—Thomas R. French, M.D., Brooklyn. Secretary and Treasurer—D. Bryson Delavan, M.D., New York. Next place of meeting, New York City. Time, June. A Committee of Conference, consisting of Drs. J. Solis Cohen, F. I. Knight, G. M. Lefferts, F. H. Bosworth, and E. L. Shurly, was appointed to investigate the desirability of a union of the Association with the proposed "Congress of American Physicians and Surgeons." The attendance at the meeting was unusually large, and the number and character of the papers presented remarkable.

THE NEW YORK POLYCLINIC.—Dr. D. Bryson Delavan has been appointed to fill the vacancy caused by the death of Dr. Louis Elsberg, and Dr. Oren D. Pomeroy has been appointed to the charge of the otological department.

"THE MORE THE MERRIER."—The *New York Medical Monthly* is the name of a new medical journal that has appeared in this city. The accomplished editor, Dr. J. Leonard Corning, has won distinction in medical literature, and a list of able contributors is announced.

A NEW SPANISH HEIR.—Queen Regent Christina gave birth, May 17, to a male heir to the throne of Spain. The event was announced with ceremonial etiquette to the dignitaries of the realm and the people of the Spanish capital, and the little stranger was duly presented to the assembled grandees, officials, Ministers of State and foreign Ambassadors on a large silver salver, as Court tradition demanded.

A PASTEUR INSTITUTE IN NEW YORK.—Dr. Valentine Mott recently arrived in this city from Paris with a rabbit which had been inoculated by Pasteur, and an institute for the cultivation of the virus of rabies and the inoculation of human subjects has been organized, with Dr. Alexander B. Mott as President. *The Lancet* reports that M. Pasteur has been so favorably impressed by the scientific intelligence of Dr. Valentine Mott that he has, for the first time, broken through his rule not to allow his virus to go out of his own hands.

DEATH OF SURGEON-MAJOR LEWIS.—Timothy Lewis, M. B., the distinguished assistant professor of pathology in the Army Medical School at Netley, England, died after a brief illness, May 7, at the age of forty-five. In speaking of him the *Lancet* says: Dr. Lewis's reputation as a scientist was European; as a microscopist he was *facile princeps*.

DEATH OF PROFESSOR LANDIS.—Dr. Henry G. Landis, Professor of Obstetrics and the Diseases of Women, in the Starling Medical College, Columbus, Ohio, died in Philadelphia on the 22d instant.

DEATH OF DR. JAMES S. MACKENZIE.—Dr. James S. MacKenzie, one of the best-known physicians of Baltimore, died May 10 of disease of the heart, at the age of sixty-six. He was a son of Dr. Colin MacKenzie, and a graduate of Jefferson Medical College, Philadelphia.

DEATH OF DR. W. O. BALDWIN.—Dr. Wm. Owen Baldwin, of Montgomery, Ala., ex-President of the American Medical Association, died at his residence in that city, May 30. He was one of the most eminent and highly respected physicians in the country, and had been selected as one of the Vice-Presidents of the Ninth International Medical Congress.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—The special meeting of this Branch which is to be held at Kingston, Ulster County, June 15, promises to be the most enjoyable that it has yet held. The programme includes an excursion to the magnificent Hotel Kaaterskill in the Catskill Mountains, which is to be opened expressly for the occasion, and it is hoped that there will be a large attendance. Fellows are privileged to bring their aunts and cousins, to say nothing of their wives.

THE NEW YORK STATE MEDICAL ASSOCIATION.—The Third District Branch will hold its second annual meeting at Binghamton, on Thursday, June 17. The following papers are expected to be read: "Notes on Some Forgotten, or Much-neglected, Remedies and Therapeutic Measures," by Dr. Caleb Greene; "Third Stage of Labor, with Special Reference to Retained Placenta," by Dr. H. C. Hendrick; "The Ideal Physician," by Dr. Jennie Stevens Elder; "Rectal Concretions," by Dr. Frank W. Ross; "Aphasia," by Dr. S. M. Hand; "Observations on Southern California as a Resort for Pulmonary Invalids," by Dr. Theron A. Wales; "Two cases of Trephining for Traumatic Epilepsy," by Dr. Carlos F. MacDonald; "Fracture of the Base of the Cranium," by Dr. Frederick Hyde; "Causes and Treatment of Pelvic Hæmatocele," by Dr. Ely Van De Warker; "May Life be Shortened by the Medical Attendant in Incurable Patients to Abridge Intense Misery?" by Dr. Jonathan Kneeland; "Splenic Leucocythæmia," by Dr. E. Lester; "Uterine Hemorrhage During Labor," by Dr. B. T. Smelzer; "Oxaluria," by Dr. A. R. Nicholson; "Spinal Irritation as Observed in a Special Case," by Dr. Thurston G. Packer; "Acute Peritonitis," by Dr. W. B. Marrow; "Bright's Disease," by Dr. John H. Price; "Eclampsia Following Childbirth," by Dr. Jonathan Kneeland; "The Shady Side, and the Sunny Side, of the Practice of Medicine," by Dr. J. M. Farrington.

EDITORIALS.

THE QUESTION OF LAPAROTOMY IN ABDOMINAL PREGNANCY.—At the last meeting of the New York County Medical Association Professor Lusk made some very interesting remarks in connection with a remarkable case of abdominal pregnancy in which, with great reluctance, he performed laparotomy nearly two years after the death of the fœtus, and when the mother was in a completely exhausted condition from septicæmia. It was noticed that when the incision was made in the abdominal walls the tissues were completely exsanguinated, and, when the sac was cut into, a large quantity of exceedingly fetid gas escaped, there being no fluid in it except about half an ounce of pus. In extracting the fœtus both the parietal bones dropped off, and it was found that the cutaneous and muscular tissues were almost entirely destroyed, while all the internal organs were shrivelled up. Death resulted thirty-six hours after the operation, and at the autopsy it was found that the Fallopian tube extended over to the sac, in the wall of which its fibres were lost. This is to be regarded as of special interest, as indicating that the case was originally one of tubal pregnancy; a fact that was abundantly confirmed by the history, which showed that about a month after the cessation of the menses the patient suffered from severe attacks of paroxysmal pain.

In his comments on the case Dr. Lusk expressed his positive conviction that this patient fell a victim to what he believes to be wholly erroneous teaching. Obstetrical authorities unite in stating that these fœtal tumors in the abdomen should not be operated on until the health begins to decline; but the danger is that the evidences of septicæmia, which, as a rule, are not at all marked in such cases until after the lapse of a considerable period, may not be distinctly recognized, and, consequently, operative interference is apt to be delayed until it is too late. The reason often given for delay in operating is, that, in the course of time, the fœtus may perhaps be converted into a lithopædion ; but statistics show that the number of cases in which this occurs is comparatively small.

The presence of such a tumor, under the most advantageous circumstances, is always a source of constant annoyance, and often of pain and distress, and, as a matter of humanity, Dr. Lusk thinks that the fœtus should be removed very soon after its death, instead of being allowed to remain until the appearance of symptoms which indicate that the constitution of the mother is already undermined. The development of symptoms denoting putrid absorption is almost always insidious, and there are very few cases in which marked evidences of it are presented until quite late in the history. The cases which Dr. Lusk has investigated show that nearly all the patients recover when the operation is undertaken at an early period. In itself it is not really a dangerous procedure, and the bad results which have been noted in so many instances are due simply to the fact that operative measures are adopted only as a last resort. The effect of the vicious process going on in the system is primarily in the blood, and afterwards results in the degeneration of all the parenchymatous organs; so that after it has gone on for a considerable time the patient is in the worst possible condition for laparotomy, and is almost sure to succumb if it is attempted.

In his work on "The Science and Art of Midwifery" (third edition, page 340), Dr. Lusk says : " All of Litzmann's patients which were operated upon during the first month subsequent to the decease of the fœtus (seven in number) died, while in twenty-six cases operated upon at periods varying from five weeks to a year after the decease of the fœtus, there were but seven deaths. The former mortality was partially due to the desperate condition of the patients, which determined the early date of the operations, and in part to the occurrence of profuse hemorrhages from the patent mouths of the placental vessels. * * * It is certainly evident that, when the circumstances admit of delay, it is best to defer operative measures * * * * until the obliteration of the maternal vessels has probably taken place." It is to be inferred, therefore, that while Dr. Lusk would operate at a short period after the death of the fœtus, he would not under ordinary circumstances do so *immediately* afterward ; for, if he had meant the latter, he would, no doubt, have advocated operating before the death of the child, as the danger from hemorrhage would seem to be very much the same in either case. The conclusion of Dr. Parry in his exhaustive treatise on Extra-Uterine Foetation is, that " the primary operation cannot be too forcibly condemned. It is not too much to say that this operation adds only another danger to a life already trembling in the balance, which the delusive hope of saving the uncertain life of a child does not warrant us in assuming."

There can be little question, however, that Dr. Lusk is correct in the position which he takes in urging a resort to laparotomy at an early period, a position which he has been led to assume, not simply by the melancholy history of the case which formed the basis of his remarks on this occasion, but by a careful statistical study of the whole subject. For some time past he has been engaged in collecting the data of all the cases of this character which have been reported during the last ten years, with a view of presenting them, with the conclusions to be drawn therefrom, before the British Medical Association, at its approaching meeting at Brighton ; and it can scarcely be doubted that the communication will form a valuable addition to the literature of this important subject, as well as have no little effect in influencing the future treatment of abdominal pregnancy.

THE AMERICAN MEDICAL ASSOCIATION AND THE INTERNATIONAL MEDICAL CONGRESS.—The recent meeting of the National Association at St. Louis was one of the most successful and agreeable in its history. There were over eleven hundred in attendance, and complete harmony and the greatest good feeling, with scarcely an exception, characterized all the proceedings. The principal addresses were of a high order, and a great deal of honest scientific work seems to have been accomplished in the various sections. All the arrangements were most satisfactory, and St. Louis more than sustained its ancient and enviable reputation for hospitality. The most lavish entertainments were constantly offered, and it is needless to add that their crowning charm was the presence and graceful courtesy of the fairest of the city, which has also long been noted for the beauty and accomplishments of its ladies. Says the journal of the Association: "The social features of the St. Louis meeting were of the most brilliant description. With a musical entertainment at the Exposition Building on Tuesday evening, a grand reception at the Merchants' Exchange on Wednesday, six receptions at private houses on Thursday evening, and an excursion on the *Chouteau*, one of the largest steamers on the Mississippi, on Friday afternoon, the members and delegates actually labored under embarrassment of social riches."

The most important and gratifying event of the meeting was the unanimous and hearty endorsement by the Association of the entire action of the Committee on the Preliminary Organization of the Ninth International Medical Congress, which is certainly convincing proof that the course pursued by the Committee meets with the earnest approval of the vast majority of the profession throughout the length and breadth of the land.

At the meeting of the Committee held at the Lindell House the day preceding the meeting of the Association, the preliminary organization was completed, and the list of officers, as officially given, now stands as follows:

President.—N. S. Davis, M.D., LL.D., Chicago, Ill.

Vice-Presidents.—W. O. Baldwin, M.D.,* Montgomery, Ala.; Wm. Brodie, M.D., Detroit, Mich; W. W. Dawson, M.D., Cincinnati, O.; J. A. Grant, M.D., Ottawa, Canada; E. M. Moore, M.D., Rochester, N.Y.; Tobias G. Richardson, M.D., New Orleans, La.; Lewis A. Sayre, M.D., New York, N.Y.; J. M. Toner, M.D., Washington, D. C.; The President of the American Medical Association; The Surgeon-General of the United States Army; The Surgeon-General of the United States Navy; The Supervising Surgeon-General of the United States Marine Hospital Service.

Secretary-General.—John B. Hamilton, M.D., Washington, D. C.

Treasurer.—E. S. F. Arnold, M.D., New York, N. Y.

Chairman of the Finance Committee.—Richard J. Dunglison, M.D., Philadelphia, Pa.

Chairman of the Executive Committee.—Henry H. Smith, M.D., Philadelphia, Pa.

Chairman of the Local Committee of Arrangements.—A. Y. P. Garnett, M.D., Washington, D. C.

Executive Committee of the Congress.—Henry H. Smith, M.D., Chairman Philadelphia, Pa.; N. S. Davis, M.D., LL.D., Chicago, Ill.; John B. Hamilton'

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* Died May 30, 1886.

M.D., Washington, D. C.; E. S. F. Arnold, M.D., New York, N.Y.; Richard J. Dunglison, M.D., Philadelphia, Pa.; A. Y. P. Garnett, M.D., Washington, D.C.; F. S. Dennis, M.D., New York, N. Y.; Abram B. Arnold, M.D., Baltimore, Md.; Wm. T. Briggs, M.D., Nashville, Tenn.; DeLaskie Miller, M.D., Chicago, Ill.; James F. Harrison, M.D., University Virginia, Va.; F. H. Terrill, M.D., San Francisco, Cal.; Wm. H. Pancoast, M.D., Philadelphia, Pa.; J. H. Callender, M.D., Nashville, Tenn.; A. B. Palmer, M.D., LL.D., Ann Arbor, Mich.; J. Lewis Smith, M.D., New York, N. Y.; E. Williams, M.D., Cincinnati, O.; S. J. Jones, M.D., LL.D., Chicago, Ill.; Wm. H. Daly, M.D., Pittsburgh, Pa.; A. R. Robinson, M.D., New York, N.Y.; Joseph Jones, M.D., New Orleans, La.; Albert L. Gihon, M.D., U.S.N., Washington, D. C.; John P. Gray, M.D., LL.D., Utica, N.Y.; Johnathan Taft, M.D., Cincinnati, O.

Local Committee of Reception and Arrangement.—A. Y. P. Garnett, M.D., Washington, D. C., Chairman; The Surgeon-General of the U. S. Army; the Surgeon-General of the U. S. Navy; the Supervising Surgeon-General of the U. S. Marine Hospital Service; J. H. Baxter, M.D., U. S. Army; J. M. Toner, M.D., Washington, D. C.; N. S. Lincoln, M.D., Washington, D. C.; C. H. A. Kleinschmidt, M.D., Washington, D. C., and forty other members in the District of Columbia.

Presidents of the Sections: General Medicine.—Abram B. Arnold, M.D., Professor of Clinical Medicine, Baltimore, Md.

General Surgery.—William T. Briggs, M.D., Professor of Surgery, Nashville, Tenn.

Military and Naval Medicine and Surgery.—Henry H. Smith, M.D., formerly Professor of Surgery and Surgeon-General of Pennsylvania, Philadelphia, Pa.

Obstetrics.—DeLaskie Miller, Ph.D., M.D., Professor of Obstetrics, Chicago, Ill.

Gynæcology.—James F. Harrison, M.D., Professor of Medicine, Obstetrics, and Medical Jurisprudence, University of Virginia.

Therapeutics and Materia Medica.—F. H. Terrill, M.D., Professor of Therapeutics, San Francisco, Cal.

Anatomy.—William H. Pancoast, M.D., Professor of General, Descriptive, and Surgical Anatomy, Philadelphia, Pa.

Physiology.—J. H. Callender, M.D., Professor of Physiology, Nashville, Tenn.

Pathology.—A. B. Palmer, M.D., LL.D., Professor of Pathology and Practice of Medicine, Ann Arbor, Mich.

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Otology.—S. J. Jones, M.D., LL.D., Professor of Opthalmology and Otology, Chicago, Ill.

Laryngology.—William H. Daly, M.D., Pittsburgh, Pa.

Dermatology and Syphilis.—A. R. Robinson, M.D., Lecturer on Dermatology and Syphilis, New York, N. Y.

Public and International Hygiene.—Joseph Jones, M.D., Professor of Chemistry and Clinical Medicine, New Orleans, La.

Collective Investigation, Vital Statistics and Climatology.—Albert L. Gihon, U.S.N., Washington, D. C.

Psychological Medicine and Nervous Diseases.—John P. Gray, M.D., LL.D., Professor of Psychological Medicine and Medical Jurisprudence, Utica, N.Y.

Dental and Oral Surgery.—Johnathan Taft, M.D., Professor of Dental and Oral Surgery, Cincinnati, O.

It is announced that the Committee will at an early date issue a second circular, which will include the list of foreign officers required by the rules previously adopted, and such additional information as can be furnished by the Local Committee of Arrangements at Washington; and the prospects for the success of the Congress may now be regarded as much brighter than at any time since the meeting of the Association last year.

A REMARKABLE ARGUMENT.—In a recent number of *The Progressive Age*, a blatant and sacrilegious sheet published at Grand Rapids, Michigan, a writer, who does not venture to make his name known, makes an attack, evidently intended to be very severe, upon Professor Frank H. Hamilton, for his article in the JOURNAL on Cremation, which has attracted such wide-spread attention. After indulging in a considerable amount of ribald abuse, he goes on to assert that it is estimated that five times as many cases of cancer occur in New York and the New England States as are found west of the Mississippi, among the same number of inhabitants, and that there is a much larger ratio of cases of consumption. "How does it happen," he then asks, "that cancer and consumption is (sic) largely on the increase in the Eastern States?" "Simply," he says, "that the increase of population are drinking the filthy and contaminating filtrations which have been gathering for generations from decaying bodies of their ancestors, while in the Western States, with a porous soil, the population sparse, and few grave-yards, the poisonous fluids have not yet infiltrated (?) the drinking water to any dangerous extent."

It will be observed that this learned and elegant writer does not present any statistics to show that cancer and consumption are more prevalent in the East than in the West, or any facts whatever which go to show that the increased number of cases of these diseases is due to the greater number of grave-yards. Granting for the moment, however, that the affections referred to are more common in this portion of the country, it would seem to be pretty evident that unless some more definite relation between the number of grave-yards and the number of cases of cancer and consumption can be shown to exist than the unsupported assertion of cause and effect by the writer in question, the argument in favor of cremation can hardly be accepted as of convincing weight.

The allusion to the porous soil of the West, too, must be regarded as a somewhat unfortunate one for the argument; for if the soil of the West were more porous, the natural inference would be that contamination of the water-supply would be more apt to occur than where there was but little porosity.

THE LATE PROFESSOR FLINT.—Among the many eloquent addresses which were made at the imposing memorial meeting held in honor of Dr. Flint by the New York County Medical Association, the official report of which occupies the opening pages of our present issue, none produced a more profound impression, or is worthy of more lasting remembrance, than the few simple but touching remarks made by Dr. Wm. H. Flint on that occasion. As a testimony to the kindly nature and the generous but wholly unostentatious benevolence of the dead master, this tribute constitutes, indeed, a shining leaf in the "unfading garland woven by countless loving and reverential hands;" while it also serves to beautifully remind us of that immortal crown which is laid up on high for those of whom it is said, "I was ahungered and ye gave me meat; naked, and ye clothed me; I was sick, and ye visited me."

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